THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. 81. NEW YORK, SATURDAY, JULY 5, 1902. NO. 1.

ORIGINAL ARTICLES.

A PLEA FOR THE SIMPLER MEDICINAL TREATMENT OF CHRONIC NERVOUS DISEASES.[1]

BY JOSEPH COLLINS, M.D.,
OF NEW YORK;
PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE POST-GRADUATE MEDICAL SCHOOL; VISITING PHYSICIAN TO THE CITY HOSPITAL.

THE chief objects of this paper are to enter a protest against the indiscriminate and excessive use of drugs in the treatment of chronic nervous disease, and to make a plea for a simpler and a more rational mode of treatment. It may strike my auditors that such a plea comes with poor grace from one who has written a volume on the treatment of nervous diseases, but my hope is that reading the book would dispel such idea.

One can not have been a neurologist long without becoming aware that the sufferer from chronic nervous disease is a target for the medicine vendor; nor can it be denied that the rank and file of physicians, when called upon to treat even some of the simpler and curable nervous diseases, depend mainly upon medicines to effect a cure. One drug after another that has been mentioned in the text-books or vaunted by pharmaceutical specialists is tried until the patient, weary of drugging and despairing of benefit, decides to consult another practitioner. The next physician adopts a similar procedure, until finally the patient's faith in doctors and their efforts is completely shattered and he falls into the hands of unscrupulous persons, such as quacks or those who depend upon supernatural methods and modes of treatment, the understanding of which transcends the human mind, faith-curists, Christian Scientists, and osteopaths. Patients who have a custom of securing copies of their prescriptions and keeping them are witnesses of the truth of this statement. It is not infrequent in my experience to be handed a bundle of prescriptions, with the statement that this and that has been taken for such and such a length of time. The amount of drugging that a patient with a chronic disorder of the nervous system, such as locomotor ataxia, progressive muscular atrophy, epilepsy, neurasthenia, or paralysis agitans, is often subjected to is appalling.

The patient with tabes consults a physician and gives a history of luetic infection twenty years previous, let us say. Inquiry reveals that he received at that time what is considered to be appropriate treatment and for an adequate length of time to overcome the infection. In face of the most widely-accepted teaching that tabes is a parasyphilitic disease, that is, a disease following in the wake of syphilis after the virus has ceased to exist as such, and therefore after it can produce the inflammatory and degenerative processes which are characteristic of it, and occurring after a period when the virus and its pathological reactions can be expected to respond to antisyphilitic medication, the patient is put through a more or less elaborate plan of treatment, consisting mainly in the administration of mercury and iodide of potassium, fortified in many instances by a cure at Hot Springs or some other watering-place which has acquired a reputation in the cure of syphilitic disease. Such procedure not infrequently reduces the patient with beginning tabes to an anemic state, causes loss of flesh and diminution of vitality, all of which are favorable to the more rapid decay of the peripheral sensory neuron, which constitutes the morbid anatomy of this disease. If the case be one of genuine tabes, no benefit whatsoever results, and in my experience from a careful study of many of these cases, made in an unprejudiced manner, injury which can not be repaired or compensated for often follows. It is no doubt true that in some instances the early phenomena of tabes are produced by syphilitic disease of the meninges and of the cord itself. These cases are not only benefited, but often they are cured by such treatment. It is, however, no exaggeration to say that such cases are extremely rare. Among 150 patients with genuine tabes I have met only two. Careful examination and continued observation are sufficient to differentiate these cases of pseudotabes.

After the patient with genuine locomotor ataxia has been put through some such course of treatment as that just spoken of, he is given nitrate of silver in large doses and for a prolonged time. If he be fortunate enough to escape the deformity which this drug produces, ergot, arsenic, belladonna, and innumerable other drugs which in truth have no *rationale* upon which to base their administration, are tried. Their only claim to recognition is that they have been enumerated in the books as serviceable in combating this disease. After their uselessness is proven to the satisfaction of him who gives them and to the distress of him who takes them, the patient is given a course of aluminium, chloride of gold, amyl nitrite, cannabis indica, arsenic, and these doing him no good, he shifts to another doctor who tries them all anew, or knowing of their previous use decides to give strychnine, phosphorus, physostigma, nitrohydrochloric acid, or others of the score of drugs that have been recommended since Duchenne first described the disease. Meanwhile the disease makes progress and if the patient has not already become discouraged, he is fast becoming so and is a ready

[1] Read at the June meeting of the Cortland County Medical Society, 1902.

victim for the fakirs, or he joins a locomotor-ataxia league whose object it is to keep members out of the hands of the physicians and to promote the discovery of a cure. If he be a man of means and of solicitous friends, he has probably not escaped the confident shoemaker who restores him to life's activities by means of properly adjusted footgear furnished him in exchange for from $500 to $2,500, depending upon his resources and his credulity.

Confronted with such a state of affairs and realizing that tabes is a progressive disease which has never been permanently stayed by medication, does it not seem much more praiseworthy to say to intelligent men or women suffering from locomotor ataxia that they are afflicted with a disorder which will eventually incapacitate them, but that in the meantime a number of years of activity will be vouchsafed to them and that, by pursuing an appropriate line of treatment and by the observance of the rules of hygiene, this may be so extended that it will cover a period one-half or two-thirds as great as the active life of their less unfortunate fellowmen? Meanwhile, they may go on living a life of usefulness to themselves, providing for their families and laying up store for the days of their invalidism. In the meantime, the earnest physician will be seeking to discover the curative lymph or other product of Nature or art which is to cope with the disease and at intervals he will be inculcating into the youth of families of whom he is the trusted counsel the wisdom of avoiding those experiences out of which the disease arises.

This is surely a more exalted position to take than to go on threshing out straw that has been beaten beyond sign of recognition in the fatuous hope of getting grain.

It may be that some of our patients are of such disposition that a frank discussion of the nature and course of the disease would act deleteriously upon them, and that they have neither the intelligence nor the philosophy to receive such communication and shape their lives accordingly. In my own experience, they constitute the exception and not the rule. There are but few instances in which if one takes the pains to explain in detail the nature and outcome of the disease, with full emphasis upon the fact that non-medicinal measures, such as massage, suspension, electricity, hydriatics, dietary, and conformation to the most approved hygienic measures, are very powerful therapeutic agencies, and the best at our command to stay the course of the disease, that the patient will betake himself from such a counselor to one who is optimistic regarding the effects of drug-therapy. I would not, of course, be understood to say that none of the drugs just mentioned is not of service in delaying the course of the disease. I appreciate fully that any one of them whose action it is to expedite the processes that are at the basis of constructive metabolism may be of service, if such service be needed. My contention here is that it has been amply demonstrated that nitrate of silver, chloride of aluminium, iodide of potassium, and so on to the end of the tiresome list, are wholly impotent in delaying or checking the morbid processes constituting tabes, and that we are not justified in submitting our patients to a plan of medication which our predecessors, not to say ourselves, have shown to be useless. The same zeal and energy directed toward experimentation along the lines of research which have already revealed measures capable of coping with diseases which until the discovery of an antidote to the poison that causes them were fatal, gives far more likelihood of reward than groping along aimlessly and hopelessly in pathways that lead always to the same end. As neurologists, we have much to answer for in failing to strike out vigorously and with determination into untrodden fields of therapeutic experimentation in our dealings with this disease.

If it be thought that I have selected the most glaring example of the drugging abuse, let us dwell for a moment on the unfortunate epileptic. It is almost impossible to enumerate the drugs that have been recommended in this disease. In Brunton's "Therapeutics," no less than forty-two remedies are mentioned as utilizable in its treatment, and still this neurosis remains as unamenable to drug-therapy as it was more than half a century ago when Laycock showed the capacity which the salts of bromine possess to cause diminution in frequency and severity of the epileptic attacks. The progress that has been made in the treatment of epilepsy in the meantime has been the recognition that genuine, idiopathic or congenital epilepsy (in contradistinction to symptomatic epilepsy) is a neurosis of degeneracy, a defect of harmonious evolutionary development that may hark back far beyond the immediate ancestry, and that there are two indications to be fulfilled in treating this neurosis. First, to put the system in such condition that excitants of epileptic attacks, such as auto-intoxications from the gastro-intestinal tract, from fatigue, or from poisonous products which should be eliminated through the emunctories, will not develop within the body, and to guard against those experiences which we have learned empirically often precipitate attacks. Second, to so influence neuromotor irritability in a sedative way that discharge of energy in the shape of explosion will be less likely to occur. Fulfilling of these requirements constitutes to-day the best treatment of epilepsy. In accordance with this treatment, it may be said that better results in the treatment of this neurosis are obtained in institutions where these indications are fulfilled and where indiscriminate administration of drugs that have been recommended as useful in epilepsy is entirely abandoned, than anyone has been able to offer from all other plans of treatment. It is not my purpose here to enumerate the details of the treatment of epilepsy that will meet the requirements of the two aforementioned indications. I have done so elsewhere.[1] My desire is rather

[1] The Treatment of Nervous Diseases, Wm. Wood & Co., New York, Publishers.

to emphasize the fact that, so long as we continue to treat epilepsy as our predecessors did, we can expect only the results obtained by them. Such results should not satisfy us and they do not satisfy our patients. The obstacles that interfere with the adoption of a plan of treatment such as that I have just sketched are that it requires great attention to detail on the part of the physician and constant daily watchfulness and coöperation of the parents of the invalid, or other persons in charge of him, which must continue during the life of the patient. It is much easier to write a prescription for one of the bromide salts, or a combination of them, and to give more or less perfunctory directions regarding the diet and the necessity of regulating the bowels, than it is to explain clearly and explicitly that the unfortunate possessor of this neurosis is handicapped with a condition which is as much a natural part of him as is the color of his hair, or the shape of his hand, or the conformation of his palate, and that he can no more rid himself of it by taking medicines that he can rid himself of any of the attributes just mentioned. His life may, however, be shaped for him in such a way, depending, naturally, upon the severity of his neurosis, that its usefulness may not be very materially curtailed. In fact, the epileptic endowment may be so slight, or so capable of being compensated for, that his sphere of usefulness may not be contracted at all. To accomplish this, to gain these ends, it will be necessary to consider the bringing-up of the epileptic child, its education, and human associations, choice of an occupation or profession, and the assumption of duties toward himself and toward society. This can be done only when we are dealing with parents who have the intelligence to discuss such questions understandingly. In dealing with others, our aim should be to secure the entrance of the unfortunate epileptic to an institution where these conditions can be fulfilled. As a matter of fact the real progress that has been made in the treatment of epilepsy in the last quarter of a century consists in the recognition of the fact that epileptics must be colonized, or institutionized, or call it what one may.

The difficult problem in dealing with epileptics and their parents, even of the so-called better classes, is made more difficult by their failure to understand that the child with epilepsy can not be brought up in the same way as the normal child, and that eternal vigilance is the price that they must pay for comparative freedom from epileptic outbreaks, and for the harmonious development of those mental qualities which shall allow him to assume the ordinary responsibilities of life (excluding matrimony). It is really not sufficient to say that the child shall have red meat once a day or once a week, varying with the belief on the part of the individual physician as to the relationship of meat-eating to the frequency of epileptic attacks; that the child shall eat slowly and never to excess; that sodium chloride shall be largely excluded from the foodstuffs; that protracted fatigue and sweets must be avoided. Conformation to such instructions will be followed, undoubtedly, by beneficial results, but the best results can be obtained only when the mode of bringing up and of living conforms to that which is adapted to the epileptic child. And I repeat that such mode of life is not the one which is adapted to the normal child. This, with the administration of the salts of bromine, is all that we can to-day offer to the patient with epilepsy. That it is not adequate need not be said, nor should it be construed as an expression of conviction on my part that epilepsy should not be treated vigorously. My feeling in this matter can best be expressed by a quotation from my book: "I know of no disease of comparable frequency and severity in which treatment properly planned and carried out is productive of better results."

The physician who depends upon the administration of drugs alone in the treatment of epilepsy will be disappointed, and still I am inclined to believe that most of us do, if I may judge from the patients that come under my observation in dispensary and private practice. Drugs, meaning by that the bromides, are powerful adjuvants, but I doubt if there be any cases on record in which they have sufficed to produce a cure. There are, no doubt, cases in which the epileptic phenomena have disappeared while under medication and never returned. But there are not a few cases of epilepsy in which the ordinary epileptic manifestations, namely, the convulsions, disappear without any medication.

Neurasthenia, or whatever that word may convey to the one who uses it or hears it, is a disease that offers itself as a tempting field in which to display pharmaceutical erudition. I have often thought that it would be a most valuable contribution to the knowledge of this disorder if we could obtain the histories of ten neurasthenics from each one of a thousand physicians, general practitioners, which should set forth attributed and attributable causes, the clinical delineation, the evidences of somatic disorder, the mental features, and, most important of all, the outcome, *i. e.*, the course of the disease. Such a plan would give us statistics of ten thousand patients. We might not learn much that was new of its causation or of its clinical delineation. We would, however, learn a most important lesson in therapeutics, and that is whether or not the disorder is materially influenced by the use of drugs alone, for it seems to me safe to assume that a large proportion of such cases would have been so treated. Neurasthenia is a condition of functional disorder of the various systems of the body, especially of the sympathetic nervous system, the natural tendency of which is to recover spontaneously when it is not founded in a congenital or early acquired disequilibrium of neural energy or vitality, or upon a hypochondriacal basis. If the conditions under which the neurosis develops be removed, first attacks of neurasthenia occurring before middle adult life disappear, as a rule, in from six to eighteen

months. That this period can be abbreviated by drug-therapy alone there can be, I believe, no doubt. That it is enormously abbreviated by drug-therapy combined with appropriate non-medicinal treatment is within the experience of every one who has had much to do with neurasthenia. In my own experience, these non-medicinal measures, consisting of rest, exercise, change of environment, isolation, hydriatics, massage, diet, avoidance of deleterious indulgences, such as stimulants and narcotics, and conformation to hygienic rules, are so effectual and so far superior in their results to drug-therapy that I rarely use drugs in the treatment of the cases that I see, except to fulfil some pointed indication, such as to overcome intestinal fermentation, to counteract anemia or other states of disordered blood, to eliminate poisonous matters from the urinary tract, or to temporarily whip up a fatigued cardiovascular apparatus, or, finally, to dispel for a time some symptom that is making a profound impression upon the patient's *morale*. I need scarcely add, I think, that the neurologists who are agreed upon these principles of treatment, if they be able to control their patients, or, better, if the patients are able to conform to the requirements, rarely fail to effect a cure. I am not quite sure, however, that practitioners in general are particularly cognizant of the fact that drugs play such a subsidiary rôle in effecting the cure. From intercourse with the best type of general practitioners as I encounter them in the Post-Graduate Medical School of New York, I venture to say that they depend too largely upon drugs and that the commonest prescription for the neurasthenic is a mixture that contains the bromides and a prescription containing strychnine. It is often necessary to give the bromides for a time in neurasthenia to compass the end just mentioned. But its prolonged or continued use is injurious and very much to be deprecated. As for strychnine, I never give it by the mouth, for experience has taught me that such method of administering it is most uncertain, whereas given hypodermatically its effect as a symptom medicine, *i. e.*, a medicine given to produce symptoms, can be determined with mathematical accuracy. So far as giving medicines as a "general tonic" is concerned, I have long since ceased to do it, not only in neurasthenia, but in every other disease.

It is not necessary to dwell further in detail on what I consider an abuse of drugs in the treatment of nervous diseases. If it were, I should need only to relate the experience of patients with paralysis agitans, sciatica, or progressive muscular atrophy. In regard to the first-mentioned of these diseases, there is complete unanimity of opinion that the less drugging the patient is subjected to, the slower is the progress of the disease and the greater is the comfort of the patient. Still, I do not feel at all sure that the experience of such patients corroborates the claim that our practice conforms to such teaching. One may say that when a patient with paralysis agitans consults a physician he expects to be treated, and that treatment is synonymous to him with the administration of medicine. In that, however, I do not concur. Treatment for the patient with paralysis agitans means conformation to a mode of life that will contribute most to his material comforts, in which medicine plays no part, save it be the occasional administration of a hypnotic or a few doses of hyoscine, to cause motor sedation. Study of the data to hand concerning the causation of paralysis agitans seems to show that it is a disease which is the reward of virtue, for rarely do any of its victims give a history of indulgence in any of the vices or show contamination with any of the ordinary injurious experiences of life, unless it be hard work. And to correct the latter no medicine has as yet been discovered.

If the cases that are now included under the designation of sciatica were carefully studied with a view to determining their causes and differentiating the structural conditions of sheath and nerve upon which they are dependent, and if our therapeutic efforts were directed entirely to overcoming the causes, the treatment of sciatica would not be the thorn in the physician's soul that it is to-day. But what is the truth about the treatment of sciatica? It is that the patient consults one physician whose belief is that the majority of sciaticas are dependent upon rheumatism, an expression of the rheumatic dyscrasia manifested through this colossal nerve, and the salicylates and iodide are given; another man believes that most cases are dependent upon auto-intoxications from the intestinal tract, the outgrowth of constipation and a distended large intestine, and his therapeutic ammunition is directed against that; while a third may be of the opinion that exposure to cold, refrigeration, is the commonest cause, and that the neuralgic condition should be combated by a medicine that benumbs the sensory nerves, such as aconitia, gelsemium, or stramonium, given until its physiological action appears. The fact that sciatica is invariably a symptom and that the only specific medication, aside from the adoption of measures to overcome the condition of which it is a symptom, is the administration of morphine to relieve the patient's suffering, is seemingly lost sight of. It would seem that treatment is often instituted on the plan that more birds are brought down with a volley of shot than with a rifle, for in no other way can we explain the elaborate and incongruous medication with which the student is confronted when he reads the chapter on the treatment of sciatica in our text-books. That such treatment often succeeds in bringing about cure is no argument in favor of its continuance, for the results are never so satisfactory as they are when the plan of procedure already spoken of is pursued. The gratification which follows the cure of disease, such as sciatica, in the way that I have mentioned is comparable to that which the surgeon experiences when he removes a diseased

appendix or a tumor of a viscus which threatens the patient's life.

In conclusion, I wish to say that my efforts will defeat the desired end if anything that I have written be construed as an effort to shake the faith of the patient, or disorder the confidence of the physician in the value of drugs as means of combating disease. Such an inference would be diametrically opposed to my own belief and to my practice based thereon. It is the abuse of drugs that I inveigh against, my object being to avoid the disrepute thereby engendered to our calling.

We must educate ourselves, as well as those who look for guidance, to a full realization of the fact that drug-administration is not always or perhaps often the most important factor in bringing about the cure of disease. It is also, I venture to suggest, a part of our duty to do what we can toward eradicating drug-fetichism as it exists to-day among the laity. Nowadays nearly every well-regulated family have a drug-closet filled with pills and potions to which they repair on the appearance of the most trivial disorder with a faith akin to that with which the pious pilgrim goes to Lourdes. Instead of correcting their dietetic errors and ceasing to transgress the laws of Hygeia, they keep on, because it is their pleasure, deluding themselves with the notion that Nature exacts no other penalties for infringement upon its laws than swallowing a few doses of medicine.

It need scarcely be said that medicine taken in this way can only bring it into disrepute, and finally it dawns upon the drug-bibber that his faith is gone. Then for him drugs are useless and osteopathy, Eddyism, or some other cult is the thing. In reality the drug habitué and we who give drugs without discrimination are in a measure responsible for the reincarnation at the present time of the neoplatonistic sphinx which the irreverent and truthless call Christian Science. The real reason, however, for the prevalence of this and other cults is the craving for the mystic and the supernatural which seems to be man's birthright and which has shown itself about once a generation from the time of Plato to the present day. In one generation it is called Hahnemannism, in another Berkeleyism, Perkinism, Eddyism, or what not. It is the same form of systematized delusion with changed delineation effected by the times when it has its outbreak. At the bottom of it all is the revival of the primitive thought dating from the period when the Neoplatonists held that there exists within the body a something, a soul, which is capable of influencing the body without the mediation of bodily structure. Like all other mental epidemics, if left to itself it subsides slowly and in time fully, but, it always breaks out again, happily in a new generation. This will continue to be the history of these strange outbreaks so long as man's understanding of himself, whence he came and whither he goeth, remains as it is now.

32 West 38th Street.

ASEPSIS AND ANTISEPSIS IN THEIR RELATION TO MODERN SURGICAL TECHNIC.[1]

BY F. H. BADGER, M.D.,
OF PAWTUCKET, R. I.,
INSTRUCTOR OF SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, BOSTON, MASS.; ASSISTANT SURGEON TO THE PAWTUCKET EMERGENCY HOSPITAL.

IN the beginning I wish it understood that I am attempting to give you only well-demonstrated facts and am leaving all extra words of explanation and detail to be obtained from other sources. Furthermore, if in reading seemingly contradictory statements in regard to certain agents or methods employed should be found, do not be discouraged, for closer comparison will prove that while one method or agent is exalted the other is seldom, if ever, said to be wrong. For all men do not have exactly the same ideas in regard to all things, consequently each may express himself a little differently, but as he believes to be best. These few notes which I am about to give are a general summing up of facts demonstrated beyond question by the experience of the profession as a whole.

First, it will be necessary to explain what is meant by the terms asepsis and antisepsis, and I think this best accomplished by a comparison with the opposition, namely, putrefaction.

Putrefaction is a form of fermentation accompanied by the development of offensive odors. And fermentation may be defined as a new arrangement of the elements of an original compound with the consequent formation of a new product. For either to take place there must be present water, oxygen, heat and micro-organisms which may be said to exist everywhere, except possibly in mid-ocean and above the snow-line.

Sepsis is only another name for putrefaction. Asepsis literally means without sepsis or a condition of non-putrefaction, but the generally-accepted definition is that it is not only a condition of non-putrefaction, but that it also denotes absence of all septic material or pathogenic organisms, the most important of which are the cocci and bacilli. For the characteristics of these micro-organisms I will refer you to the department of pathology.

An antiseptic is an agent that is opposed to the causes of sepsis and is employed whenever surgical cleanliness is desired. To be surgically clean is to be free from sepsis and its causes; therefore antisepsis may be defined as a condition directly opposed to that of sepsis. So, to treat a wound aseptically would be to exclude from it all micro-organisms that tend to produce sepsis; while the antiseptic treatment would be not only this exclusion of micro-organisms, but the introduction of some agent that would tend to destroy them if present.

Aseptic and antiseptic surgery is based upon the principle first enunciated by Sir Joseph Lister, namely, that upon all objects in the external world septic dust is present and the introduction

[1] Remarks made before the third-year students in the College of Physicians and Surgeons, Boston, Mass., 1901.

of any of this dust into a wound must be avoided. The stage of controversy as to the benefits of aseptic and antiseptic surgery has long passed, and a comparison of statistics of operations in pre-Listerian days with those of the last quarter century is convincing beyond a doubt. Sufficient to say that compound fractures in those days were considered among the most dangerous accidents, while now they are thought to be scarcely more serious than simple ones, and the mortality of all major operations is reduced to a minimum.

To secure and maintain surgical cleanliness in operative work either the aseptic or the antiseptic method may be employed. In the aseptic method heat or some chemical germicide, or both, is used to cleanse the instruments, field of operation, hands of surgeon and assistants, the chemical germicide being washed off with plain sterile water. After the incision is made no chemical germicide is used, the wound being sponged with gauze sterilized by heat; if irrigation be needed plain sterile water is used and the wound is dressed with gauze sterilized by heat. The efforts of the surgeon are simply to prevent the introduction of bacteria into the wound and for this reason the aseptic method is applicable only to non-infected areas.

All hemorrhage must be stopped by ligature or otherwise before the wound is closed. This may be done with Halsted's stitch, which avoids the danger of carrying the skin staphylococcus into the wound in passing the suture. The dressing should be applied with firm pressure to obliterate all cavities. When irrigation has not been practised and the wound is dressed with gauze sterilized by heat it is termed the "dry aseptic method."

In the antiseptic method the same preparations are made as in the aseptic, but during the operation the sponges used are impregnated with some chemical germicide; if irrigation be practised a solution of some chemical germicide is used and the wound is dressed with gauze impregnated with some chemical germicide. In this method the surgeon not only strives to exclude bacteria from the wound, but introduces some agent which will tend to destroy any bacteria if present, and is therefore preferred in infected areas. If no irrigation be practised and if the wound be dressed with dry gauze, it is termed the "dry antiseptic method." Of these two methods the aseptic is the most popular, but it must be understood that whichever method is used must be thorough to be effective.

In many regions strong chemical germicides must not be used for reasons which we will note later; but in badly infected areas it is necessary to employ some germicidal agent for the destruction of bacteria. Thus each method has its indications.

As an antiseptic or germicide the most universally valuable and available is heat. High temperatures are fatal to bacteria. Moist heat is much more effective than dry. Many organisms are destroyed at a temperature below that of boiling, while boiling is said to kill every pathogenic organism that does not form spores. As a practical fact boiling water will, in a few minutes, kill all cocci, most bacilli, and all pathogenic spores, although the spores of anthrax and tetanus are harder to kill than those of other bacteria. It is well that this be kept in mind, for no matter how far one may be from a city this agent of heat is always obtainable. Instruments and dressings may either be boiled or placed in an ordinary stove oven and subjected to sufficient heat to render them surgically clean.

Of the antiseptic drugs or chemical germicides there are a very large number, but I shall attempt to speak of only a very few, of which the most important is corrosive sublimate or bichloride of mercury, as it is often termed. It is used in surgery in the strength of one part of the salt to 1,000, 2,000, 3,000 parts of water, or even weaker solutions are used according to indications. It is sometimes used in badly-infected wounds in the strength of 1-500. While this antiseptic under certain conditions is very powerful, it is not always to be relied upon. Many spores, as those of anthrax, are very resistant to its action. In the presence of hydrogen sulphide it is useless, sulphide of mercury being formed. For this reason it is worthless in the rectum. Neither is it germicidal in fatty tissue, for it fails to attack bacteria that are covered with oil. It is very irritating to the tissues, causing a copious exudation, and it is thought that in many instances the irritated tissues lose to a certain degree their power of resistance. Because of this irritation it should never be used upon serous surfaces like the peritoneum, nor upon the dura, neither should it be used in strong solutions upon mucous membranes. In rare instances it is absorbed and produces poisoning. In spite of its many shortcomings, it is of great value to the surgeon and must frequently be used for cleansing the skin of the patient as well as the hands of surgeon and assistants. Fresh solutions should always be made when needed; a hot solution is much more effective than a cold one. Solutions are very readily made of any desired strength from the tablets containing $7^{3}/_{10}$ grains of the salt. One tablet of this size dissolved in a pint of water makes a solution of the strength of 1-1,000. The weaker solutions are made, of course, by adding more water.

Ordinarily it is used in the strength of 1-1,000 for disinfecting the skin, 1-2,000 for trivial wounds, 1-5,000 to 1-10,000 for large wounds and vagina and 1-20,000 to 1-40,000 for the urethra. Instruments cannot be placed in solutions of this agent without being stained, corroded and dulled.

Carbolic acid is a germicide of considerable value when used in the strength of 1-20 or 1-40; pus organisms are very readily destroyed by it. Unfortunately, this agent is very irritating to the skin and for this reason its chief use is as an antiseptic medium for sterilized instruments. Like corrosive sublimate it is inert in fatty tissue. Carbolic acid is very readily absorbed and in

using it upon the tissues it is well to remember that absorption takes place very readily from the use of weak solutions, but never from the strong acid, because of its caustic action which forms a barrier to absorption.

Creolin, a coal-tar product, is a germicide without irritant or toxic effects; it is less powerful, however, than the two previously mentioned. It is used in an emulsion of the strength of from 1 to 5 per cent. Peroxide of hydrogen is valuable for the destruction of pus cocci. Iodoform is not truly a germicide, but hinders the development of bacteria. It is largely used and is without doubt of great value applied to infected areas. It is frequently used as a dusting powder, and iodoform gauze is employed for drains. There are many other agents used as germicides, with certain merits which I will not now take time to point out.

Let us consider the necessary aseptic and antiseptic precautions in preparing for an operation. First, in the preparation of the instruments; they are best disinfected by boiling in a 1-per-cent. solution of bicarbonate of soda for twenty minutes, then rinsing with a solution of carbolic acid in the strength of 1-20, after which they should be placed in a tray containing a solution of carbolic acid of the same strength. Plain sterile water may be used instead of the carbolic-acid solution. The soda is used in order to prevent rusting. During the operation care should be taken that the instruments are not allowed to come in contact with anything that has not been sterilized, also that they be returned to their appropriate solution after using. After the operation the instruments should be scrubbed with soap and water, boiled and dried. This is as important as disinfection before the operation.

It is always well to have plenty of sterile towels, as they will be useful in many ways. They are best sterilized by heat, yet they may be saturated with a solution of corrosive sublimate and thus form a good protective surrounding for the field of operation.

For sponging I think nearly all surgeons now prefer small pads of sterile or antiseptic gauze to the old marine sponge. These pads are clean and inexpensive; they are made of gauze so folded as to form several thicknesses, the raw edges being folded in and loosely hemmed. These may be sterilized in the same manner as the dressings and are burned after the operation.

Suture material must also be sterile. The different methods of sterilizing it can be easily obtained from any text-book of surgery, though all sutures may be and ordinarily are obtained by the general practitioner thoroughly sterilized and with a little care may be kept so, thus saving much time and labor. However, these should be the product of some reliable laboratory.

The dressings, whatever they are, must be sterile. They are best sterilized by heat, but may be rendered antiseptic by saturation in a solution of some germicidal agent, as corrosive sublimate, carbolic acid, or creolin.

We now come to the preparation of the patient. Whenever possible give the patient a day or two of rest in bed if the operation is to be a major one. A cathartic should be given the night before and an enema the morning of the operation. Emptying the bowels thoroughly will lessen the danger of sepsis. If it be possible, give a general warm bath the day before the operation, and the evening before scrub the entire field of operation and all around it with soap and water, remove all hair by shaving, wash with ether, scrub well with hot corrosive sublimate solution of the strength of 1-1,000, then apply a moist dressing of corrosive sublimate and let it remain until the patient is brought to the operating-table. Upon removing this dressing before the operation, the part should again be cleansed exactly as before and the field of operation surrounded by sterile towels. In emergency cases disinfection can be practised only just previous to the operation, therefore it should be done with great care and the field of operation must be well protected by sterile surroundings.

With the patient ready for the operation, let us see what should be the preparation of the surgeon and his assistants. They should remove their coats, roll up their sleeves to their elbows and put on sterile gowns. The hands and forearms should be thoroughly scrubbed with soap and hot water, the nails should be cut short, cleaned with a knife, and the hands should again be scrubbed, after which they are dipped in hot corrosive sublimate solution of the strength of 1-1,000. They may then be dipped in absolute alcohol and again bathed with the mercurial solution. This process will serve to give the hands proper disinfection if it be carried out thoroughly. Of course, there are many other methods. After the hands are once disinfected care must be taken to touch nothing that has not been sterilized. In making and cooling solutions, use nothing but sterile water.

TETANY.

BY SANGER BROWN, M.D.,
OF CHICAGO.

A CAREFUL search of the literature up to 1898 shows that not more than one hundred cases of tetany had been reported in this country previous to that time, and hence it is not at all unlikely that many American practitioners have never seen a case, at least in the locality where they practise. The disease, however, is comparatively common in some European cities, wide-spread epidemics having occurred therein from time to time, thus affording ample opportunity for its observation and study; hence it is from these localities that by far the most important additions to our knowledge of it have emanated.

The number of synonyms found in the literature is suggestive of wide variation in the symptoms as well as in the views of various observers as to their significance. Some of these are as follows: Tetanilla; tetanoid spasm; pseudo-

tetanus; intermittent tetanus; remittent tetanus; rheumatic tetanus; essential contracture; idiopathic contracture; tonic occupation spasm; shoemaker's spasm, etc.

The disease is characterized by tonic spasms, paroxysmal or continuous, and usually symmetrical, limited to the hands and feet in mild cases, but much more extensive in severe ones. Sensory and general symptoms, when present, are almost invariably distinctly subordinate.

Etiology.

It is convenient for purposes of description to group cases occurring in adults as follows:

Idiopathic Artisans.—It has been noticed in certain urban epidemics in Germany that, while shoemakers comprised only 1.3 per cent. of the entire population, 43 per cent. of all the cases was supplied from this class. The relative liability of tailors was about one-third and of cabinet-makers three-fourths less.

Gastro-intestinal.—Dilatation of the stomach due to pyloric stenosis is a complicating factor in this subdivision, but tainted food, diarrhea, constipation and intestinal parasites have each been recognized as of more or less etiological significance.

Pregnancy and Lactation furnish a large proportion of the cases met with in women. In pregnancy the increased liability only belongs to the latter half, the former half, indeed, having been thought to furnish a certain immunity as the occurrence of this condition has seemed sometimes to terminate the spasms when these had previously existed. The extensive and definite influence of lactation as a cause may be inferred from the term "nurse's contracture," given the disease by so famous an observer as Trousseau, though tetany from this cause is said to have been far more common in Paris in Trousseau's time than since. Indeed, it is said to have been very rare in that city of late years.

Thyroid Deprivation, either by surgical interference or disease of the organ resulting in its destruction, may certainly cause tetany, sometimes, as might be expected, associated with signs of myxedema.

The Acute Infections, such as typhoid, scarlet and rheumatic fevers, measles, smallpox, diphtheria, pneumonia, influenza and malaria, either as they are subsiding or during convalescence from them, are answerable for some cases, and the same may be said of such poisons as urea, alcohol and ergot. Some authors maintain, however, that the symptoms and pathological changes produced by the last-named substance are sufficiently peculiar to entitle them to separate consideration.

Hysteria is very frequently and *epilepsy* occasionally associated with tetany. It is probable that the former may be positively, and the latter practically, neglected as the cause of the disease.

Though it occurs at all ages aside from childhood, it is most common in young adults; and if pregnancy, lactation and occupation are not considered, no sexual preference is apparent. That the disease favors certain localities and rarely or never occurs in many others has already been stated, and it may be added that no matter what other etiological conditions may be present, a great majority of cases develop during the late winter and early spring.

Pathogeny.

Many ingenious attempts have been made to demonstrate, both in man and in the lower animals, the existence of some substance which might be regarded either as cause or as result of the disease. But so far, there has been considerable disagreement among different investigators. Principles have been isolated from the contents of dilated stomachs and from the thyroid gland, which, injected into the circulation of the lower animals, have produced convulsions; but this has not appeared conclusive on account of the variable character of the convulsions so produced, and in view of the fact that similar phenomena may be excited by the administration of substances of widely different composition. A consideration of the different lines of original research, however, together with the etiology and symptomatology, strongly supports the theory that the disease results from a toxic substance acting, probably, as an irritant, mainly upon the bodies of the peripheral motor neurons. It seems also that this substance is elaborated in the economy and that there may be some variation in the process of elaboration and even in the composition of the pathogenic product in different cases.

No postmortem findings have as yet thrown any light upon the nature of the disease.

Symptomatology.

Muscular spasm is the essential feature of tetany, but its variations as to quality, quantity and distribution are almost beyond description. Hence, within the last few years it has happened, since considerable attention has been directed to the subject, that a great many cases have been reported as rare, the reporters apparently having estimated them according to the classical descriptions of Trousseau, which were certainly far too narrow.

Paroxysms of spasm, lasting from a few minutes to a few days, then slowly subsiding and recurring in a few hours or days, are the most usual muscular manifestations. But cases presenting continuous spasm occur often enough and these may have partial or complete remission. And so, too, more or less stiffness is pretty sure to remain between the severe and sharp paroxysms; so that while "paroxysmal," "intermittent" and "continuous" are convenient terms by which to designate the character of the contractures, it must be remembered that they are only approximations. The contracted muscles present various degrees of firmness. In the more severe forms, however, they are frequently much harder than they can be made by an effort of the

will, and the term "hard as a board" commonly applied to them seems quite appropriate. A spasm usually involves the whole of a muscle, but sometimes only a section of it, as I have often observed in the muscles of the calf and of the abdomen, while fibrillary and even clonic spasms are occasionally seen.

As a rule, the spasm lessens during sleep, though in weakly women mild contractures first appear mainly at night, waking the patient. The contractures are usually much more severe in the paroxysmal than in the continuous varieties, though in two of the cases herein reported the masseters were maintained for several weeks steadily in a degree of contracture that yielded only to chloroform narcosis.

The mechanical excitability of the nerves and muscles is greatly increased, so that in well-marked cases of the paroxysmal type a brisk tap on almost any part of the person may excite a seizure, and so may passive or voluntary movement. Stimulation is certainly more effective applied to the muscles most affected, or to the motor nerve trunks which supply them, than it is in health. Chvotsek has carefully studied this phenomenon, which has been given his name. Gowers has pointed out that it probably forms the basis of Trousseau's symptom, which implies that a paroxysm in a limb may be produced by continuous compression of its main arterial trunk. Gowers noted that, on account of their proximity, this usually involved compression of the main nerve trunks also, to which the muscular spasms were probably due. In some of the continuous cases this increased irritability, if present, is certainly not easily demonstrated.

The electrical excitability of both nerves and muscles is also greatly increased. Erb and Frankl-Hochwart have made thorough and extensive observations on this subject. In general terms, the nerve and muscle are more sensitive to both currents than in health; but in health the first and greatest response is seen on closure at the negative pole (cathode), while in tetany the strongest contraction is seen at the positive pole (anode), being practically alike on either opening or closing. These electrical phenomena, though of great scientific interest, are exceedingly variable at best, and except in the hands of an expert, thoroughly familiar with his methods and apparatus, do not furnish very valuable diagnostic criteria.

The distribution of the spasm is perhaps more variable than its nature. In a large majority of cases it begins in the hands by contraction of the thumbs, flexion at the metacarpophalangeal joints, and extension at those beyond; while the interossei, acting at the same time, draw the fingers together, thus forming the so-called "accoucheur's hand." But though the spasms begin in the hand, the conical or accoucheur's hand may not be formed at all. The hand may be clenched or in the bird-claw position. Indeed, in the same patient, in a developed case, the hands and feet, including fingers and toes, may assume every conceivable position during a single paroxysm. While the muscles of the extremities form the favorite seat of the spasm, it may predominate in other groups throughout, as in the masseters or in those of the back, producing respectively lockjaw and opisthotonus. Indeed, it appears that no voluntary muscle is exempt. Involvement of the diaphragm, vesical sphincter, internal and external ocular, tongue and muscles of deglutation have been reported.

Though the spasms are nearly always symmetrical, I have seen one case at least (Case III. in Appendix) in which they were confined to the left upper extremity—the hand, mainly—throughout an otherwise moderately severe and typical attack. Freund reports two cases of left-sided tetany, which would strongly suggest Jacksonian epilepsy to my mind, were it not that they both presented beginning cataract, and one, at least, had suffered from previous gastro-intestinal disturbance. Thus, it appears, at least so far as the muscles are concerned, that the character of the spasm has more diagnostic significance than its distribution. The muscles generally show some tendency to overaction or a too ready response to voluntary or mechanical stimuli during convalescence, this being more especially observable in protracted cases.

Such sensory phenomena as numbness, tingling or burning in the part, may be complained of for a few hours or even a day or two prior to the spasm; and, while not usually very severe, in certain cases they may for a time divert attention from the real nature of the disease. That the pain resulting from the cramps in severe cases is excruciating can be readily imagined. In mild continuous forms, too, though the spasm is not sufficiently severe in many of the muscles to prevent any desired movement, the patient finds his limbs inevitably falling into a stereotyped position and held there by a sort of ever-present nagging and involuntary tension which, to say the least, is inimical to bodily and mental tranquility. A moderate amount of blunting of sensibility to touch and to pin-pricks which has been claimed by some reporters may be in some measure due to overstimulation of the sensory centers caused by the painful nature of the spasms, as apparently the afferent sensory mechanisms are not affected. In most cases increased reflex excitability can be demonstrated; but in others the presence of spasm may prevent a fair application of the test.

Vasomotor and trophic phenomena, as edema of the parts of the seat of violent spasm, are common and are most notable at the extremities. Occasionally they are quite extensive. Congestion at the extremities, when these are the seat of spasm, is almost invariable, and the same is true of other parts favorable to the observation of this condition, such as the face, eyes and ears. Giddiness, tinnitus and fleeting visual disturbances have been noted in some instances.

Some cloudiness of the lens, virtually beginning cataract, is said to be present in some cases; and Peters, who has studied this condition care-

fully, believes it to be due to obstruction of the circulation in vessels adjacent to the lens and, hence, to interference with its nutrition. This obstruction, he thinks, is caused by spasm of the ciliary muscle. Having been unable to consult anything more than brief abstracts of Peters' monograph on the subject, however, I cannot speak of the relative frequency of cataract in tetany and therefore of its diagnostic value. I have only examined one well-marked case since my attention was called to this complication and in that no signs of cataract were present.

Similarly, vascular obstruction resulting from spasms of the underlying muscle has been advanced as an explanation of the occurrence of pigmented patches on the skin, which are now and then met with in this disease.

Some general symptoms, such as chilly sensation, pain in the back, nausea, vomiting and diarrhea, with accelerated pulse and the rise of a degree or two in temperature, may be encountered at the outset. But any or all of them may be practically absent in typical cases. Gastro-intestinal disturbance may be marked for a week or two, even in those cases which are free from gastric dilatation, but it is not improbable that in the former as well as in the latter the symptom should be reckoned as mainly etiological.

As cases progress, depending upon their severity and the temperamental characteristics of the patient, more or less emotional and hysterical phenomena may develop. Indeed, these latter may be so prominent as to divert attention from or obscure the underlying symptoms of tetany.

Thorough urinary analyses have not yet resulted in any important findings, and, so far as I know, no reports of blood-examinations have been published, except in a few cases associated with malaria.

Diagnosis.

In typical cases the diagnosis is not difficult if the character of the spasms, their distribution, symmetry and the increased excitability of the muscles and nerves be remembered. Etiological considerations, such as gastric dilatation, also often afford strong diagnostic evidence. In very severe or in very mild cases, however, or in those with unusual distribution of the spasms, peculiar characteristics may not stand out in very bold relief.

Tetanus.—In very severe cases with lockjaw and opisthotonus, and in the absence of the history, the diagnosis might be impossible; and so it might be in a mild type of the continuous form in which the spasm was mainly confined to the masseters, there being only a stiffness of other groups not sufficient to interfere seriously with movement. It should be remembered, however, that tetany usually begins in the hands and feet and involves other parts later, while in tetanus the masseters are among the earliest muscles to be affected, those of the hands and feet usually escaping entirely. In tetany the paroxysms remit much more frequently than in tetanus, and generally the action of the flexors, pronators, abductors and internal rotators predominate in tetany; the extensors, supinators, adductors and external rotators in tetanus. In the mild, continuous cases, involving mainly the masseters, etiological considerations have the first place; for in this type increased excitability of the nerves and muscles is often wanting, and perhaps only the course of the case or discovery of the tetanus bacillus can establish the diagnosis.

Spinal Meningitis.—Tuberculous meningitis and cerebral congestion need be scarcely more than mentioned, for not only are the character and distribution of the spasms when they occur quite different from those of tetany, but the absence of the peculiar excitability, together with the presence of more marked sensory and general symptoms, excludes tetany.

Hysteria, as already stated, is often present as a complication, but except in the major paroxysms, in which the diagnosis is obvious enough, the contractures are not usually symmetrical and the Trousseau sign is absent. In some cases falling under this division, however, a positive diagnosis may be considerably delayed, because the hysterical manifestations may for a time be so great as to obscure other features of the clinical picture.

Epilepsy may, of course, be associated with tetany, but Jacksonian epilepsy has been confounded with it. This could hardly happen to any observer who had had much opportunity of observing both diseases. In this type of epilepsy the spasm always begins unilaterally, and if it becomes general consciousness is lost. The paroxysm is comparatively brief and some weakness usually persists for a longer or shorter period in the part in which the seizure began. In fact, a cerebral lesion of any kind sufficient to excite or maintain spasms for any considerable length of time would all but invariably present symptoms proclaiming pretty plainly its nature and seat.

Spasmodic Wry-neck.—When a considerable degree of continuous muscular spasm, with paroxysmal exacerbations which may be provoked by voluntary movement, developing within a few days, has its seat in the muscles that move the head, thus producing postures characteristic of wry-neck, even though the spasm involve the muscles of the face, larynx and back of the same side sufficiently to interfere with phonation and bend the trunk strongly backward and to the same side, a diagnosis may have to be deferred for further observation. This statement describes the symptoms of a vigorous sewer worker, twenty-six years old, accustomed to standing many hours in water, who was for several weeks under my observation at St. Luke's Hospital. The possibility of his disease being anything but torticollis did not occur to me at that time, however, and by my advice the posterior branches of the four upper cervical nerves were resected, with only temporary relief.

Prognosis.

There is a wide variability in the duration of the disease, ranging from a few hours to a few

months, though doubtless a majority of the attacks might be measured by days rather than weeks or hours. In adults of good general health the prognosis is highly favorable. Complete recovery, however, is often tardy and partial relapses are not uncommon. Patients not infrequently complain of an inadequate sense of muscular repose, and occasionally even slight visible spasm occurs for several months subsequent to the cessation of active manifestations of the disease.

Tetany occurring in the latter half of pregnancy usually terminates with delivery, and that of lactation is likely to be protracted but not very severe. Generally the exciting cause of the first attack may produce subsequent attacks of a similar character, this being especially conspicuous in cases associated with pregancy and lactation. In debilitated subjects the danger of death from exhaustion is considerable, especially if the spasms be widespread and the paroxysms severe and frequent.

In cases due to gastric dilatation the prognosis is very grave aside from a consideration of the fatal tendency of the disease giving rise to the stenosis to which the tetany is secondary.

Although in a very large majority of cases the danger of a fatal result is remote, the proportion in which it may develop is large enough to warrant a careful and serious consideration in every instance.

Treatment.

In cases resulting from extirpation or atrophy of the thyroid the treatment is obvious and the response is usually prompt and satisfactory; also in the tetany of pregnancy, the induction of premature labor or abortion, like parturition at term, is pretty sure to terminate the disease, thus forming a striking contrast to the chorea of pregnancy, in which these measures are rarely effective; a considerable proportion of cases progress to a fatal result notwithstanding.

Excepting for thyroid and pregnancy cases, no specific has yet been discovered. Current views of the pathogeny, in the absence of an antidote, favor the eliminatives. Tonics and supporting measures, the correction of any dietary, digestive or metabolic vices and judicious exhibition of sedatives and hypnotics are severally indicated in most cases, while in the early stages, apart from those cases resulting from gastric dilatation, nausea, vomiting and diarrhea must be prescribed for. The cases due to dilatation of the stomach are in a class by themselves and, as a matter of course, the treatment appropriate for that disorder must have first place.

Neither my experience nor my reading prompts me to advise definite measures for the treatment of this disease with a view to curtailing its course, for I have never seen or read of any results sufficiently conclusive to warrant it. Though bleeding is said to arrest the spasms temporarily, no result has ever been gained from depletion to warrant the employment of measures which might expose the patient to the danger of fatal exhaustion. But bearing this in mind, I know of no contraindication presented by the disease to promoting free elimination through the kidneys, bowels, skin and glandular system generally.

The relief afforded by sedatives and antispasmodics is often urgently demanded. In transient attacks due to exposure, morphine may be used and rather full doses are required, but in protracted cases it rarely answers well, because the quantity required to maintain a satisfactory antispasmodic effect is likely to cause serious constitutional disturbance of one kind or another. Potassium bromide in full doses—30 to 60 grains, three times a day in a glass of water—is by far the most generally useful sedative, though alone it will scarcely ever promptly modify a severe and widespread paroxysm. Its good effects are seen a few hours after its administration is begun, and they may generally be maintained indefinitely. The hydrobromate of hyoscine hypodermically administered is very quickly efficient in relieving the severity of the paroxysms in some instances. One-twenty-fifth of a grain may be given every hour until the full medicinal effect is produced, when a smaller dose at longer intervals suffices. Of the hypnotics, chloral has yielded the best results in my hands, and when either sedatives or hypnotics have been given in full doses without prompt relief, light chloroform narcosis will quickly install the condition sought, which may then continue independently. Full chloroform narcosis may be relied upon to produce complete relaxation and must be at hand in those cases in which involvement of the laryngeal and the respiratory muscles threatens a speedily fatal asphyxia. Especially in the laryngeal spasm, it may for the first few moments appear to aggravate the difficulty unless care be exercised in its administration. Hauber has reported benefit from vigorous massage of the muscles while they were in the relaxation of narcosis. Relaxation may also be induced by the subcutaneous injection of pilocarpine; but, unfortunately, the suppression of the spasm afforded by either pilocarpine or chloroform does not prevent its recurrence, while the continuous administration of either drug is highly conducive to a severe and perhaps dangerous exhaustion. The degree of medication of any kind necessary to subdue severe paroxysms demands, of course, the presence of a physician.

Appendix.

Case I.—A healthy peddler, twenty-six years of age, presented himself at the clinic of the Post-Graduate Medical School in June. He had been in the habit of carrying a heavy pack, had walked a long distance the day before, and had been thoroughly drenched with rain. He awoke after midnight with severe cramps in the calves and feet, the paroxysms lasting, with remissions, two or three hours. He complained that the parts felt lame and stiff. The case was not observed further.

Case II.—A healthy barber, thirty-two years

of age, of correct habits, had worked long hours at his trade for many consecutive years, with hardly a day's vacation. He became irritable and easily fatigued. After returning home from work at night, he was subject to severe and painful paroxysms of spasm in the hamstring muscles. A few weeks of outdoor life were recommended in his case, but he only recently came under observation and no progress can be reported.

Case III.—Healthy man, twenty-two years of age, of uncertain habits, was admitted to St. Elizabeth's Hospital in May, 1894, and remained under observation ten days, during which time his symptoms underwent no perceptible change. He stated he had left home without parental approval several months before, had recently been out of funds, and had tramped, undergoing a great deal of exposure. The spasms began about two weeks before admission and in a few days were about as on admission. They had never been painful

and he had not noticed any altered sensation in the parts at any time. They had never been more extensive or severe than on admission. The spasm was confined to the hand and forearm and is fairly represented by the picture, though the deformity was much greater than is shown when a voluntary movement was attempted, as buttoning the clothing or handling a knife and fork at table. Though the little finger of the right hand is somewhat separated from its neighbor in the picture, there was no spasm in that member.

Case IV.—A hard-working woman physician, thirty-eight years of age, of vigorous physique, had acute indigestion after eating shrimp salad, with some malaise for a day or two following; then she was surprised to find on rising continuous spasm of the masseters, preventing the introduction of an ordinary mouthful of food. The jaws could be opened so as to admit the point of the little finger and closed as well as ever throughout the illness. There was a degree or two, or perhaps at times three degress of fever and considerable general nervousness. The knees were drawn up and adducted, the feet being slightly rotated inward. The arms were flexed on the chest with the wrists bent toward the radial side. This posture of the limbs was unconsciously assumed with the dorsal decubitus and undoubtedly indicated some degree of continuous spasms in the muscles concerned; but with the exception of the masseters there was at no time any considerable conscious impediment to the use of any of the muscles. Sensation was intact, but there was considerable general discomfort, especially for the first few weeks. Chloroform alone produced relaxation of the masseters. It was several weeks before they began to relax, and several months later an entirely satisfactory condition of muscular endurance and tranquillity had not returned, though the patient had resumed work as usual. There were never any paroxysms or exacerbations of the contracture.

Case V.—A farmer and bank president, aged fifty-six years, of regular habits and excellent health, noticed for several days an increased difficulty in mastication. His jaws seemed stiff and there was also some stiffness in neck and back. Finally his teeth could only be separated about one-sixteenth of an inch, though they could be readily closed and separated to that extent, and the movement of the back and neck was slow and somewhat restricted. The arms and legs appeared quite free.

Excepting the nervousness attributable to anxiety prior to a favorable prognosis, the general condition was normal. No objective or subjective sensory symptoms were present at any time. Occasionally the jaws would fall somewhat during sound sleep, when apparently the tension of the masseters thus caused would appear to excite a return of the spasm. The patient was fed through the nose six weeks before any perceptible abatement of the spasm supervened. Then gradual recovery began with some conscious sensation in the muscles incident to their activity, persisting for several months. Unless the phenomenon occasionally noted during sleep be accounted such, no paroxysm of spasm appeared at any time. A very exhaustive inquiry utterly failed to reveal anything of etiological significance.

Case VI.—An intelligent American, twenty-nine years of age, single, tailor, of temperate habits and good heredity, was admitted to Cook County Hospital Nov. 2, 1901. He said that prior to his present illness his health had been good since childhood. On the night of September 15th he rode about six hours on a flat car and became severely chilled. The next day he felt uncomfortably chilly and had colic, diarrhea and some nausea, but does not think he was feverish. He had eaten some canned lobster at a buffet before riding on the car. On the morning of September 17th he played pool while waiting for a train. His stomach, however, was not quite settled and he still had some diarrhea. On settling for the game he noticed for the first time that he could not pick up his change on account of spasm in his fingers and especially in the thumbs, which were drawn in toward the palms, while the fingers were pressed closely together, flexed at the metacarpophalangeal joints and extended at

those beyond. In the course of a few hours the hands and feet were strongly turned inward, especially when voluntary movements were attempted, so that walking was almost impossible. In the course of from thirty-six to forty-eight hours paroxysms of intense spasm affected nearly all the muscles of the body, often causing excruciating pain. The most severe pain, however, was caused by contraction of the muscles of the neck, during which the head was strongly drawn forward. For the first few days, at the height of the paroxysms nausea and vomiting would occasionally occur. Between paroxysms he would sometimes secure several hours of sleep, providing he had a comfortable bed. As a matter of fact, he underwent a great deal of exposure for some weeks prior to admission. On examination he was seen to be a well-formed, muscular and fairly-nourished man, with a rather haggard and anxious expression; more or less tonic spasm was seen in various muscles almost constantly, whereas a comparatively slight voluntary movement or a slight blow on any part of the person would usually precipitate a severe paroxysm lasting several minutes. With the exception of the ocular, facial, masticatory, laryngeal and respiratory, no muscles were spared. The large muscles of the abdomen, back and limbs were as "hard as a board" during a paroxysm, but, with the exception of the hands and feet, the contractures caused much slighter changes of posture than might have been expected. The fingers and toes were thrown into every conceivable contortion. He complained that his memory was impaired, though this was not apparent to me and might be accounted for to some extent by his suffering. His responses to touch and pin-pricks seemed somewhat less than normal, but how far the apparent reduction might have been due to distraction incident to the painful paroxysms it was difficult to say. There were no premonitory subjective sensory symptoms. The treatment consisted of 20-grain doses of potassium bromide, well diluted, every three hours, with 15 grains of chloral at night to induce sleep; this latter drug was withdrawn a few days later. In a few days he was comparatively comfortable and in a week could stand, though there was considerable drawing of various parts caused by voluntary movement. He was discharged December 10th, feeling better, as he said, than for several years, which is a common but no doubt candid expression of many convalescents. There was still, however, occasional drawing in the hand and feet, most notably, however, in the thumbs. That is, the parts first affected were the last to recover—a fact that may be regarded as supporting the theory that the spasm is the result of an infection acting upon the peripheral motor neurons.

Until some new demonstration which will warrant a separation on pathological or pathogenic grounds be made, it may be expedient to go on including under one caption cases presenting such wide variations as did this last, but, if to these there be added the cases incident to childbearing, infancy, or childhood, gastric dilatation and thyroid deprivation, the necessity for further investigations along this line which will permit a more satisfactory classification is sufficiently obvious.

BIBLIOGRAPHY.

[1] Adams, S. S. Tetany in Infants. Amer. Jour. of Obstetrics, 1898. Page 872.
[2] Bundy, Elizabeth R. A Case of Tetany, with Notes Concerning the Etiology. Phila. Med. Jour., 1899.
[3] Freund, Heinrich. Zwei Seltene Falle von Tetanie, Wien. med. Woche., No. 39, 1899.
[4] Frankl-Hochwart. Nochnagle's Specielle Path. u. Therap., B. XI., T. II., Abtheilung 4, 1897.
[5] Gowers, Sir William. A Manual of Diseases of the Nervous System, 1898.
[6] Guinon. Sur la tetanie en forme de pseudo-tetanos. Bulletin de la Société de Pediatrie de Paris. Oct., 1899, No. 6.
[7] Hochsinger. Die Myotonie der Saulinge und deren Beziehungen zur Tetanie, Wien. Perles, 8° III., 64, S. 2, Taf., 1900.
[8] Kraft-Ebing, Ueber Pseudo-tetanie. Präger med. Wochenschrift, XXIV., No. 14, 1899.
[9] Meinert, E. Fall von Tetanie in der Schwangerschaft Enstanden nach Kropf Operation, Arch. f. Gynaek., Bd. 55, II., 2, 1898.
[10] Peters, Dr. Albert. Tetanie u. Starrbildung, Ein Bitrarg zur Pathologie u. pathologischen Anatomie der Linse, Bonn, 1898.
[11] Russell, J. S. Risen. A System of Medicine; edited by Thos. Clifford Allbutt. Vol. VIII., p. 47, 1900.
[12] Stein, Julius. Drei Seltene Falle von Tetanie, Allg. Wien. Med. Ztg., No. 33, 1899.
[13] Simbriger. Ein Fall von Magentetanie, Präger med. Woch., No. 38, 1899.
[14] Westphal, Dr. A. Ueber Einen durch Hysteria, Complicirten Fall von Tetanie, CharitéAnnalen XXIII., 1898.

THE EXAMINATION OF THE GASTRIC CONTENTS IN CHILDREN.[1]

BY LOUIS FISCHER, M.D.,
OF NEW YORK;
ATTENDING PHYSICIAN TO THE WILLARD PARKER AND RIVERSIDE HOSPITALS, ETC.

WE are indebted to Bauer, Deutsch, and Leo. among others, for certain systematic rules and deductions based upon the physiological chemistry of the gastric contents in children.

Following along the same line I have repeated a series of experiments with a view to confirming or adding to the results already known. The method of obtaining the gastric contents was very simple. When a poor appetite existed for months in a subacute dyspepsia, a Nélaton catheter was introduced through the esophagus into the stomach and the gastric contents were siphoned off. In children under one year, fed on the bottle or on the breast, the time chosen for siphoning the gastric contents was one hour, one and a half and two hours after feeding. The greatest number of examinations made by me were the result of specimens of vomit secured by the nurse or the mother in charge of the patient. The frequency with which children vomit and the ease with which they vomit were important factors which prompted me to procure such specimens, when possible.

The following method was used excepting in several instances in which Töpfer's method of estimating HCl was preferred.

Chemical Examination.

After the removed chyle is filtered it is ready for the following tests:

Hydrochloric Acid.—Free hydrochloric acid

[1] Read before the Section on Pediatrics of the New York Academy of Medicine, January 9, 1902.

turns Congo-red a deep blue color; but as the presence of large quantities of lactic and other organic acids gives the same reaction, and as the phloroglucin-vanillin (Günzburg's reagent) does not respond to the organic acids, it is better not to depend upon the simpler Congo-red test. One or two drops of the filtered stomach-contents are placed on a white porcelain dish; the same amount of the reagent is added and thoroughly mixed with a glass rod; the dish is then gently warmed over the flame. The appearance of a bright cherry-red color on the edge of the residue indicates the presence of free hydrochloric acid.

Estimation.—To 10 c.c. of the filtered chyle add one drop of phenolthalein solution; to this add drop by drop from the burette a decinormal solution of potassium or sodium hydrate until after thoroughly stirring a pink color persists; now read carefully the number of c.c. of the alkali solution used, multiply by 10 and 0.00365 (the decinormal factor of HCl) and the result is the percentage of HCl. If sufficient material is at hand, the estimation should be repeated to avoid possible error.

Lactic Acid (Uffelmann's test).—One drop of the solution of ferric chloride is added to 20 c.c. of the ½-per-cent. carbolic-acid solution; this is diluted till a transparent amethyst blue color is obtained. A few drops of the fluid to be tested added to a few c.c. of this solution in a test-tube change the amethyst blue to a canary-yellow if lactic acid be present. On account of the presence of various other things, this test is sometimes not distinctive when the untreated chyle is used. A more certain procedure is to add to 10 c.c. of the filtered chyle in a test-tube 10 c.c. of ether; shake thoroughly; allow the ether to separate; decant the ether into a clean test-tube; place the test-tube containing the ether in a glass of warm water till the ether has evaporated; add 5 to 10 c.c. of distilled water to the residue, and test as above for lactic acid.

Propeptone.—To 5 c.c. of chyle, add 5 c.c. of saturated solution of sodium chloride and 2 drops of acetic acid. A cloudiness or precipitate indicates propeptone, especially if the precipitate disappears on heating and returns on cooling.

Peptone.—Filter out any propeptone from the last-named; add an excess of sodium hydrate solution; mix thoroughly and add one or two drops of a weak solution of copper sulphate (1-2 per cent.); the appearance of a violet-red or old-rose color indicates peptone. This is the so-called biuret reaction which most peptones and albumoses give.

Pepsin.—For this test we require uniform, small pieces of coagulated albumin; these should be little circular slices of hard boiled white of egg, 1 cm. in diameter and 1 mm. in thickness, which may be preserved in glycerin. One of these little disks is placed in a test-tube containing 5 c.c. of filtered chyle and kept at a temperature of 99° F.; if it has been already shown that hydrochloric acid is absent, a drop or two of dilute hydrochloric must be added. The tube is observed every twenty to thirty minutes to note the progress of digestion and the time required for complete disappearance of the egg albumin.

Rennet.—Add a few drops of chyle to 5 to 10 c.c. of milk and place tube in water at a temperature of 99° F.

Motility.—The motility of the stomach may be tested in various ways; probably the salol-test, although open to many objections, is the most used.

This test finds the foundation for its use in the fact that salol is not absorbed until it reaches the alkaline secretions of the intestine by which it is decomposed. The test is untrustworthy when the stomach secretion is alkaline. The time between ingestion and the appearance of salicyluric acid in the urine is noted by examining the urine at intervals of one-half and one hour after taking fifteen grains of salol (immediately after meal). If salicyluric acid be present in the urine, the addition of a few drops of a solution of ferric chloride gives a violet color. If the appearance of the test be delayed longer than an hour or an hour and fifteen minutes, the motility is usually considered below normal.

Resorptive Power.—This may be tested very easily by giving four or five grains of potassium iodide in capsules before meal-time, and by testing the saliva every few minutes for iodine by dipping strips of filter paper moistened with starch paste into the saliva acidulated with nitric acid.

More weight is probably to be laid upon the percentage of free hydrochloric acid. A few common observations of the indications of the hydrochloric acid percentages are here given.

Uffelmann's Reagent.—If a solution containing lactic acid be added to some of this reagent, the violet color will be changed to a canary-yellow when the acid is present in moderate quantity, or into a greenish-yellow if the amount be small. As little as 0.01 per cent. of lactic acid will serve to produce the reaction. Unfortunately, lactic acid is seldom present alone in the stomach, and as other acids change the color of the fluid in a different way the result of the reaction may be very indefinite. Thus, free hydrochloric acid simply discharges the color of the solution; when combined with proteid bodies it gives it a yellow-brown tint, which is very similar to that produced by acetic acid. Butyric acid discharges the color of the solution, but generally gives it a grayish opalescent look. Both tartaric and citric acid give the same reaction as lactic. Free hydrochloric acid, therefore, simply discharges the color, lactic acid causes it to become a bright canary-yellow, acetic and combined hydrochloric acid give a yellowish-brown, and butyric acid a grayish opalescent appearance to the solution.

Another reaction which may be used to identify lactic acid, and which is rather more delicate than Uffelmann's, is brought about by adding one or two drops of a dilute solution of perchloride of iron to 50 c.c. of distilled water. When lactic acid is added to this, even in very dilute propor-

BREAST-FED INFANTS.

Name.	Age.	Time since last feeding.	Stomach Contents.	Condition of the coagula.	Reaction.	Günzburg Reagent (HCl).	Lactic Acid.	Propeptone.	Peptone.	Rennet.	Remarks.
1. Baby William	1 month	2 hours	None	None	Neutral	None	None	None	None	None	Normal infant.
2. Baby William	5 weeks	1½ hours	Some	Very fine	Acid	O	+	+	+	+	Normal infant.
3. Baby Charles	3 months	3 hours	Some	Very thick	Acid	+	+	+	+	+	Child very colicky. Infant not thriving. Syphilis.
4. Baby May	6 months	4 hours	Some	Very thick	Acid	+	+	+	+	+	Hydrocephalic infant.
5. Baby Allen	9 months	4 hours	None	None	None	None	None	None	None	None	Child is in excellent health.
6. Baby Trinz	1 year	4 hours	Some	Very fine	Acid	None	Very strong	+	+	+	Always was delicate. Anorexia.
7. Baby Moses	1 year	4 hours	Large quantity	Very thick	Acid	+	+	+	+	+	Vomits frequently. Rachitis.
8. Baby Fischer	1 year	4 hours	Traces, about 3i	Very thick yellowish	Acid	+	+	+	+	+	Child vomited after swabbing throat.
9. Baby Harold	1 year	3½ hours	About 1 ounce	Very thick yellowish, sour smelling	Acid	+	+	+	+	+	Convalescing from colitis; vomited after dose of ipecac given to relieve spasmodic croup.
10. Baby Swan	13 months	4 hours	One ounce	Very fine	Acid	+	+	+	+	+	Examined for adenoids; otherwise healthy infant.

Estimation of Free and Combined HCl by Toepfer's method (Boas' Allgemeine Diagnostik, p. 166, III., auflage- p. 167).

tions, the solution, which is almost colorless, develops a light yellow tint. The three acids just mentioned do not give this reaction. A few drops of the stomach-contents dropped into the iron solution cause the same change of color, should lactic acid be present.

The following series of cases will give an idea of the results obtained and the deductions to be drawn therefrom. The specimens were secured from patients in the children's service of the German Poliklinik. Three specimens were secured from patients ill with diphtheria at the Willard Parker Hospital.

Breast-fed Infants.

Cases I. and II. were those of a healthy breast-fed infant. The child suffered from occasional colic. A specimen of breast-milk was submitted to a chemist who reported the percentage of fat, sugar and of proteids normal. The question of nursing less often arose. In order to satisfy myself that the stomach was empty two hours after feeding, I siphoned the gastric contents and found no trace of food. The feeding was continued. One week later I siphoned off the gastric contents one and a half hours after feeding and found some chyle. The feedings were continued and the child gained in weight.

Case III.—Baby Charles, three months, nursing, was brought to me with a history of crying one hour after nursing; the child has greenish and cheesy stools, is very fretful, sleeps very little, screams very loudly, has much flatulence; child gains from two to three ounces per week. The child weighed about seven pounds at birth and now weighs only eight pounds, ten ounces. The mother of the infant has menstruated every month since her accouchement and there is evidence of syphilis from her history. The mother very reluctantly weaned the baby and the latter made a decided improvement on hand-feeding. Internally, iodide of sodium in one-grain doses, three times a day, seemed to act well. The diagnosis of syphilis may, I think, account for the non-development of this infant.

Case IV.—Baby May was brought to me with a history of vomiting. The infant was highly emaciated; chronic hydrocephalus; the presence of very thick coagula in the stomach four hours after nursing showed the subnormal digestive power of this infant. It is interesting to note the presence of HCl and lactic acid in this infant.

Case V.—Baby Allen, nine months old, two lower incisors since two months, was brought to me for treatment of cough. The child had a temperature of 104° F.; the throat was congested and had small patches on each tonsil. The diagnosis of angina follicularis was made. While examining the infant's throat it vomited glairy mucus, evidently from the esophagus. This infant, according to its history, had not been sick since its birth. There was no evidence of rickets.

Case VI.—Baby Trinz was brought to me for constant anorexia. The mother stated that the infant had to be coaxed to nurse ever since birth, and had never had an appetite as she saw it in

her other children. The catheter was used to siphon off the gastric contents four hours after nursing; they appeared to be abnormal. The infant was put on nux vomica, massage was ordered, and gentle faradization seemed to improve the appetite.

Case VII.—Baby Moses was brought to me because of constant colic, greenish stools alternating with constipation and frequent vomiting. The infant was very rachitic, showing evidence of malnutrition and stagnation of food. The diagnosis of fermentative gastritis was made. The abdomen was distended, also the colon. There was no evidence of dentition. The infant's mother believed her child had been teething for the last six months. Weaning was ordered and artificial feeding given.

Case VIII.—Child Fischer, a normal infant, one year old, was brought to me for the treatment of post-nasal catarrh. While swabbing the pharynx a small quantity of gastric contents was obtained, which was normal in reaction, although very thick in consistence.

Case IX.—Child Harold was under my care for several weeks suffering with an attack of colitis. The infant was improperly fed and was permitted to drink large quantities of lager beer, to which I attributed the enterocolitis. While the infant was convalescing the nurse reported that he awoke with spasmodic croup. This was relieved by ipecac, which caused vomiting. Almost an ounce of yellowish white fluid, containing mucus, very sour smelling, was obtained. About eight hours after vomiting the specimen was examined.

Case X.—Baby Swan, brought to me for relief of cough, which occurred mostly at night, was examined by me for adenoids. The finger inserted in the post-nasal space caused vomiting. The infant was healthy, digestion good, bowels moved regularly, sleep good. Infant one year old had six teeth, four upper and two lower incisors.

Résumé of These Ten Breast-fed Infant Specimens.—Healthy children invariably showed finely flocculent contents, excepting *Case IV.*, hydrocephalus, and *Case III.*, syphilis. *Hydrochloric acid, free or combined, was always present.* Even in *Case VI.*, Baby Trinz, always delicate, poor appetite, gastric contents showed very fine flocculent condition.

Bottle-fed Infants; Artificial Feeding.

Case I.—Baby John, two months old, was breast-fed for the first three weeks of life. The child cried after nursing and frequently sucked a half hour and longer. The stools were slimy, greenish, and the infant was restless and did not sleep. Scanty milk was suspected and weaning was ordered. The infant was fed on condensed milk. The child again seemed to have colic and the mother gave the following:

Milk, cream, water, for one feeding; sterilized.

This last formula was given for about one month; the infant gained in weight, but had

BOTTLE OR ARTIFICIAL FEEDING (STERILIZED OR PASTEURIZED MILK).

Name.	Age.	Time since last feeding.	Stomach contents.	Condition of the coagula.	Reaction.	HCl.*	Lactic Acid.	Propeptone.	Peptone.	Rennet.	Diagnosis and Remarks.
John	2 months	2 hrs.—vomit	Some	Lumpy, thick	Acid	None	+	+	+	None	Dyspepsia infantum.
Amy	8 months	3 hrs.—vomit	Some	Coarse, thick, lumpy	Acid	None	+ Also butyric acid.	None	None	None	Rhachitis pertussis.
Henry	1 year	2 hrs.—vomit	Large quantity	Very thick, lumpy	Acid	None	+	+	+	+	Gastritis fermentativa.
Beatrice	11 months	3 hrs.—vomit	Small quantity	Very thick curds	Acid	No	+	+	+	Slight	Dyspepsia rachitis.
William	15 months	3 hrs.—vomit	Small quantity	Very thick lumpy curds	Acid	No	+	+	+	Slight	Atonia gastrica.

Note the difference in the appearance of coagulum—always very thick and lumpy compared with thin, flocculent condition in breast-fed infants.

*Günzburg reagent used to test presence of HCl.

cheesy, curded stools and vomited occasionally. The vomit had a very sour smell.

The examination of the gastric contents showed the presence of combined acids, traces of acetic acid, also butyric acid, lactic acid in abundance, no HCl, coarse lumpy coagulum. Castor oil and a diet of whey for a few days improved the condition.

Milk, whey, granulated sugar, for one feeding; milk warmed.

Diluted HCl, one drop doses, three times a day, acted very well. The stools and general condition improved.

Case II.—Amy W., colored, eight months old, constipated since birth, markedly rachitic, beaded ribs, pendulous belly, no evidence of dentition, is a very irritable, crying baby. Has received various soothing syrups to induce sleep; appetite was always poor; infant received tea and sugar, condensed milk and water since birth. She was brought to the clinic for the treatment of whooping-cough which had existed about one month. The cough is very troublesome; the child frequently has five and six paroxysms in an hour; the paroxysms usually end in vomiting. In this manner the gastric contents were procured and examined. They were slimy, contained yellowish mucus, also traces of bile, very acid in reaction; lactic acid was present, also butyric acid; no HCl, no peptone, no propeptone. *Coagulum, coarse lumps.* The child improved for a short time under cod-liver oil, and did not report, owing to the illness of the mother.

Case III.—Henry M., one year old, was referred to me for my opinion regarding meningeal disease. The child was hand-fed since birth, did not seem to develop as the other children in the same family, and vomited on the slightest provocation. The child was unable to talk or walk and seemed to be generally backward in development. The food since birth was milk and water, one part milk, three parts water; later at three months old, two parts milk and two parts water; still later, three parts milk and one part water. At nine months to one year, malted foods. Since using these malted foods, there had been colic, vomiting and very loose bowels. The examination of the child showed a poorly-nourished infant; slight rickets of cranial bones; two teeth, upper incisors; child sits alone and appears dull mentally; fontanelle is not distended; no evidence of paralysis of lower or upper extremities; Kernig's symptom absent. Patella reflexes normal, pupils respond normally to light. The abdomen is large, distended and very tympanitic on percussion; the child has frequent eructations and is very flatulent; the child vomits easily, as when crying or coughing. The vomit was examined about two hours after feeding and showed a very acid reaction. Presence of lactic acid, no free HCl, propeptone, peptone, also rennet, acetic acid, large quantities of mucus. Epithelium was found by examining a drop under the microscope, starch granules and also the leptothrix. In this case I ruled out all possible meningeal disease, for the trouble was distinctly confined to the stomach and intestines. Coagulum, very thick, coarse lumps. A specimen of urine secured by means of a catheter showed presence of indican.

Case IV.—Beatrice M., eleven months old, fed on laboratory milk. The child gained in weight and, excepting for occasional constipation, was not ill during the first seven months of her life. Dyspeptic symptoms then developed; she had frequent colicky spells, curded, cheesy stools, fever and intense thirst and very restless nights. Her weight remained stationary for three weeks, then she began to emaciate. When first seen, laboratory milk was discontinued and the infant placed on sweetened whey and on barley soup. As soon as milk was added to the whey vomiting commenced, which ceased when milk was discontinued. The examination of vomited gastric contents showed no free HCl, lactic acid very abundant, propeptone, peptone, rennet, all present. There were traces of butyric acid and of lactic acid. The *coagulum was in very thick, coarse lumps.* The milk was prepared by adding peptogenic milk powder, which was well borne and the colicky symptoms soon improved.

Case V.—William G., fifteen months old, has been a bottle-baby since birth. He now has eight teeth, is commencing to talk and to walk. He is poorly nourished and looks quite frail. The mother states that he has not had a natural stool since birth; she invariably gives him an enema or cascara drops. His stool is always in round, pasty balls, like marbles, and very hard. His appetite has always been very poor and he never takes more than four or five ounces at one meal. When she urges him to take more, he vomits. The specimen of vomit, about one ounce, was examined about three hours after feeding. The coagulum was a thick, very rubbery curd like pot-cheese, almost solid, reaction acid, no free HCl, lactic acid present, no butyric, no acetic; propeptone, peptone and rennet were present. The case was diagnosed as gastric atony. With the aid of massage, gentle faradization, and internally one drop of nux vomica half an hour before feeding, the appetite and general condition were greatly improved. The infant still receives diluted milk, *i.e.*, milk, two parts, oatmeal water, one part, and is fed every four hours.

The ease with which children vomit made it possible to procure a series of specimens for examination. In some instances a soft, flexible, Nélaton catheter, No. 12 or 14, was used to siphon the gastric contents. The slightest irritation of the fauces frequently provokes vomiting. The presence of an intelligent nurse made it very easy to procure a specimen of vomit in a great many cases.

Of a series examined, three specimens were obtained in this manner from children at the Willard Parker Hospital. As these were from malignant cases of diphtheria, no attempt was made other than to watch at the time of the nausea for the specimen. *Free HCl was not present in very young children, especially in those cases fed ex-*

clusively on milk. This was equally true of breast-fed and bottle-fed babies. That hydrochloric acid was secreted, however, can be proven by the presence of both the peptone and the propeptone reactions. Milk exists with the acid and forms acid albuminates; hence the hydrochloric acid exists in combination and not as a free acid.

Leo[1] and Einhorn[2] in a series of interesting experiments demonstrated this important fact. In my series of experiments I have found that the acidity in milk babies is very low; thus I can fully indorse the statements of Leo and Einhorn.

From a therapeutic standpoint we cannot emphasize too strongly the necessity for remembering that hydrochloric acid is rarely found as free hydrochloric acid in the infant's stomach. As this is the case in the normal infantile stomach, it is erroneous to give HCl, because the same cannot be demonstrated in the vomit or in the gastric contents.

Epstein was the first to recommend and advocate the use of lavage in children.

Leo examined one hundred and thirty-four children in the clinics of Professor Senator and found that it is best not to dilute the gastric contents. The diluted gave a neutral reaction, whereas the undiluted gastric contents gave an intense acid reaction. Macroscopical appearance: Mucus, slimy; consistence usually due to swallowing larger quantities of saliva. How long milk remains in the stomach before entering the intestine he cannot state, but believes that a larger quantity leaves the stomach as early as *half an hour after it has been swallowed.* Time of total disappearance depends on the presence or absence of pathological conditions.

In the first few weeks of life the stomach is empty one hour after nursing. Older children have a larger quantity left one hour after nursing. The maximum time required to empty the stomach under normal conditions in the first few months of life is one and a half hours. Leo agrees with Epstein on this point.

When cow's milk was used food was found several hours after feeding. The stomach was never absolutely empty, as frequently yellowish liquid could be found in the catheter. This is a concentrated liquid which contains all that could be found, even though it may be present in a larger quantity.

No Direct Reaction was Found.—Small quantities of gastric liquid are not caused by the introduction of a sound. If the stomach is continuously washed without food being partaken of, a fluid will be found which has a neutral reaction. Thus, small quantities of liquid or gastric contents found in an empty stomach are probably due to *residues* from a previously digested process. Reaction very soon after feeding or nursing depends, in a measure, on the reaction of food swallowed, thus breast milk is alkaline, amphoteric, neutral when tested with litmus; whereas, fifteen minutes after swallowing the food, the reaction is slightly acid, which acidity gradually increases in intensity. *Cow's milk* is amphoteric, neutral, or slightly acid.

Free acid can be detected only after considerable time by the Congo reaction. This is usually not even one hour after taking the food. It is difficult to receive gastric contents at the end of digestive process, but wherever it was possible HCl was found, even though in small quantities. Lactic was usually associated with it.

Point of *clinical importance* in the presence of lactic acid in children and adults: To find lactic acid the filtered gastric contents was shaken with ether and examined. Combined acidity as also relative quantity of HCl is smaller proportionately than in adults. A few drops of normal $^1/_{10}$ alkaline solution is sufficient and will neutralize all acid present half an hour after infants have taken food, when 10 c.c. of gastric contents are withdrawn. The gastric contents of two infants was examined two and three hours after birth respectively, before food was taken, and gave a very acid reaction.

Congo and phloroglucin-vanillin reaction were present. Free HCl is secreted and Leo insists that it combines with milk and has been overlooked. That milk will combine with HCl can easily be proven experimentally. A small quantity of HCl will be entirely neutralized in another form. Phosphates of soda, which neutralize the acid phosphate, Soxhlet found in milk.

Annie S., four years old, was brought to me with the following history: She has always been delicate, has no appetite, and suffers from constipation. The mother stated that the child has to be forced to take food at almost every meal; the child is rarely comfortable for one day, invariably complaining of pain in her abdomen and stomach. Frequently the pain seems continuous, so that the child is continually suffering. The child was breast-fed for three months and then weaned. The mother stated that the child was taken from her breast and weaned during an attack of typhoid fever, from which she suffered. Her child was then put on sterilized milk and the infant suffered with colic, vomiting, and extreme constipation. After several weeks of bottle-feeding, the child lost considerable weight, and was then put on condensed milk, diluted with water, on which she was nourished for one month. When the child was six months old she was put on Mellin's food, to which some milk was added and this seemed to agree for several months. When the child was nine months old, she weighed ten pounds with her clothes on. During her first summer she had a severe attack of summer complaint which lasted nearly two months, during which she became so emaciated that she resembled a skeleton. Thus her first year ended without the eruption of a single tooth. The child was unable to stand, walk, or talk. She had a marked rachitic kyphosis in addition to a pot-belly; there were marked beads on her ribs and the epiphyses

[1] H. Leo, Berlin klin. Woch., No. 40, 1888.
[2] M. Einhorn. Stomach Digestion, N. Y. Med. Jour., July 20, 1889.

of the long bones were very prominent. Her head showed marked symptoms of rickets; the fontanelles were very wide open and there was distinct softening of the occipital and the frontal bones. The child suffered from marked sweating of the head and also of the body. There was a large bald spot at the occiput. The child snores and the mother states that it has snored and breathed through its mouth since the end of its first year. Besides an attack of measles from which the child suffered at the beginning of its third year, nothing of importance transpired. The child's appetite has always been poor, and she prefers liquids, which she gulps down in large quantities. The mother states that the child refuses meat and will not eat vegetables or fruit, but likes milk, tea and beer. This child has been given half a tumbler of beer since its second year, at every noon and evening meal, to quote the mother, "just like the rest of the family." The present condition of the child is very poor; she has a very anemic appearance; her skin has lost its normal elasticity; it is shriveled under the arm-pits and also between the thighs; there are distinct evidences of rickets in the bony structures; the muscles are very flabby; the teeth are very carious and irregular; the child has bow-legs; there is continual constipation; the child requires an enema or cathartic almost every day; the appetite is poor; there is a marked tenderness on palpation over the stomach and abdomen; this tenderness cannot be localized.

The child was given a cup of tea without sugar or milk and a piece of zwieback as a test meal. One hour later the gastric contents were siphoned off with the aid of a soft, flexible, No. 10 catheter. The chemical examination showed a decided absence of hydrochloric acid and an excess of lactic acid. The stomach was then thoroughly washed with two pints of a normal salt solution until the contents flowed clear. The child was given two minims of tincture of nux vomica before each meal. The diet consisted of peptonized milk, soup, broth, buttermilk, one soft-boiled egg, and some acid fruit, like oranges and grapes. Wine-glass doses of citrate of magnesia were given for their laxative effect. Massage of the stomach and bowels was given for ten minutes every morning. This therapeutic measure is of great service in stimulating peristalsis. This treatment was continued for six months and the child gained in weight, her appetite improved, and her physical condition was benefited. Gentle faradization over the stomach and bowels seemed to have a marked beneficial effect. The examination of the gastric contents three months after the treatment was commenced showed a marked increase in HCl, as there was a decided reaction with Congo and also with Günzburg's reagent.

The diagnosis of atony with dilatation of the stomach, was made. Aided by the history and by the tenderness, which was so marked on palpation, peritonitis was suspected. The examination of the gastric contents showed marked peculiarity, inasmuch as there was a total absence of hydrochloric acid in two different examinations. Added to this was the presence of lactic acid. If the same conditions were found in adults, we would be justified in the diagnosis of carcinoma. This, however, was not the case in this child. Besides the massage, gentle faradization of the stomach was given every three days. This stimulating treatment was given for several months and the child gradually gained in flesh and its appetite returned.

It is interesting to note that one month after treatment was commenced there was a decided absence of lactic acid and hydrochloric acid was present. The amount of free hydrochloric acid varied. At times it was 0.07 per cent. and now, about one year after treatment, it is 0.09 per cent.

This case clearly shows that the foundation for chronic dyspepsia is laid in infancy and childhood. In the majority of cases the cause is improper feeding. Such improper feeding will cause a distention of the stomach through fermentation, and the muscular walls of the stomach remain abnormally distended, because of their greatly weakened condition.

The investigations of Glenhard, Trastour and Bouchard have shown that dilatation of the stomach is the primary factor inducing auto-intoxication. This lies at the foundation of the majority of acute and chronic maladies.

M. Comby measured the stomachs of eighty nurslings at the Hôpital des Enfants Maladies. Of twenty-six of them from one day to three months old, but six had a small stomach (45 to 80 c.c.), the others had stomachs dilated to 200 to 310 c.c. Of nineteen from three to six months old, four had a small stomach, fifteen a dilated stomach. Of twenty-eight from six to twelve months old, six had a small stomach, twenty-two dilated. Seven others, older, had dilated stomachs. Of these eighty children whose stomachs were examined at autopsy, 80 per cent. had dilated stomachs.

Why this mortality with dilatation of the stomach in hospital nurslings? In addition to being badly cared for, or even abandoned by their parents, before being brought to the hospital, they are invariably fed on poor, cheap milk, perhaps watered with impure water, so that the butter in it is reduced (according to Budin) fifteen to thirteen parts in one thousand. Besides, they are often prematurely fed with soups, porridge, etc. Those that do not overeat to obtain satisfaction for hunger die of slow starvation. The others have large stomachs by virtue of slow dilatation from excess of food and fermentation. The author finds extension of the stomach upward beneath the diaphragm and downward below the umbilicus. These children often vomit the stomach-contents, mucus, clots of milk, bile, and coffee-grounds. Lead-paper will give reaction of sulphuretted hydrogen. The milk will be found undigested in the stomach as long as five or six hours after being taken; there it ferments and produces auto-intoxication and is

a ready cause of diarrhea, vomiting, athrepsia, convulsions, etc. If the children recover, their stomachs are left maimed, to cause subsequent dyspepsia in adult life.

When lavage is indicated in children, a No. 6, 8, or 10 soft rubber catheter can be attached by means of a connecting tube to a funnel. It is advisable to siphon off the stomach-contents by pouring no more than two or three ounces of boiled water, to which a pinch of salt has been added, through the funnel. The funnel can then be lowered below the level of the stomach and the contents siphoned off. This process is to be repeated as long as the siphoning brings away debris from the stomach. If this method be carefully followed and gently done, no bad effects can result from the same. It is advisable to wash out the stomach every day in those cases in which no immediate benefit results; on the other hand, if marked improvement follow the first lavage then the same need not be repeated for one week. The point worth noting is that the time best adapted for washing out the stomach is early in the morning before food has been taken.

The following case is also of interest: E. G., eighteen months old, was brought to me with a history of having a poor appetite, being very restless at night and suffering from continual constipation. There are two other children in this family, one seven and one twelve years of age, both of them well.

The mother states that the child has been breast-fed, and also received barley and rice-water, soup and cakes when he was *three months old;* in other words, she supplied artificial food to make up the deficiency which she stated existed in the breast-milk. This child, although eighteen months old, cannot walk, or stand. He has four teeth; there is a distant rachitic kyphosis when the child is sitting. He can say "mama" and "papa," but nothing else. The child appears to be stupid and mentally deficient. Last summer he suffered from summer complaint, which was attributed to his teeth. He has had convulsions at irregular intervals and the mother states that the convulsions are usually associated with vomiting and diarrhea. The child is distinctly rachitic; has a very large pendulous belly; the abdomen is markedly tympanitic on percussion and is distended with gas; the colon is also quite distended with gas; the child has continual eructations and a great deal of flatulence; the appetite is changeable. One day the child will have a large appetite and then for several days will live on practically nothing. No infectious disease and no other disease has appeared until now. A careful inquiry into the cause of the convulsions shows that they are usually associated with gastric fever and regularly follow overeating.

The child was given a cup of tea and a piece of water roll as a test meal. The stomach-contents were then siphoned off for examination. It showed a marked lessening of the normal quantity of HCl. The child had 000.05 per cent. of free hydrochloric acid; there was no lactic acid present. This child was placed on careful diet, consisting of soup, broth, white of egg, buttermilk, zwieback and fruit, and given one drop of tincture of nux vomica three times a day for two weeks. A marked improvement followed the regulation of the diet. I insisted on this child being given an interval of four hours between each meal. *No food was given between meals.* This regularity, I believe, in addition to the light diet and the nux vomica, aided greatly in establishing a cure. Massage of the abdomen and sponging of the whole body with tepid water, followed by friction with a coarse Turkish towel, aided greatly in establishing a good circulation of the blood. The child was under observation and treatment for a period of seven months, during which time no convulsions occurred. Before coming to me for treatment, the child had had convulsions at intervals of every week or two depending on the irregularities in feeding.

Nux Vomica.—Nux vomica in one-drop doses three times a day was frequently ordered when anorexia was present. It was frequently ordered in conditions associated with constipation. No distinct influence on the production of HCl could be noted.

Massage.—Gentle rotary movements over the stomach and over the ascending and transverse colon were frequently followed by an increased appetite. Massage proved beneficial in the majority of cases treated and seemed to stimulate the production of HCl.

Dilute Hydrochloric Acid.—This drug given in doses of from one to five minims several times a day was always followed by marked benefit. It is one of the best antifermentatives that we possess. When a chemical examination of the gastric contents was made it invariably showed an increase of HCl after one week's treatment. It certainly stimulates the peptic glands.

Influence of Fever on Secretion of HCl.—In febrile diseases, such as measles and scarlatina, the secretions of HCl depend on the presence or absence of fever. In measles HCl disappears as soon as the fever disappears. When the fever declines, HCl is again secreted. In scarlet fever traces of HCl can frequently be found. There is, however, generally a total disappearance of the HCl which reappears with the apyrexia; thus, the secretion of HCl is usually absent in febrile conditions. This same condition was also noted in an acute catarrhal gastritis in which the temperature rose to 105° F. The child vomited frequently and had an intense thirst. One of the specimens of vomit, consisting of two ounces, was filtered and examined for the presence or absence of HCl; not a trace could be found. Equally interesting is the condition found in diphtheria. In no case of diphtheria was the specimen procured other than from the gastric contents vomited. It was not deemed wise to use a catheter on an infected area. Free hydrochloric acid was not found. It was found only during convalescence.

Hydrochloric acid was absent in mild as well as in malignant forms of diphtheria. Thus, it appears that the diphtheria toxin seems to inhibit the production of HCl. Behring's theory is that the cells and the cell elements are disturbed in their activity by the action of the toxin and that the antitoxin stimulates their activity. The cell elements are paralyzed by means of the toxin and they fail to functionate until stimulated by antitoxin to reactivity. The truth of this statement must be admitted when we compare what can be easily proven experimentally, that twenty-four to forty-eight hours after the injection of serum HCl was again present in the gastric juice. This has an important bearing on the prognosis of a case of malignant diphtheria.

In the case of a child, Richard Lynch, four years old, ill with diphtheria affecting the tonsils, pharynx and nose and complicated by croup, admitted to the Willard Parker Hospital, 4,000 units of antitoxin were given on the sixth day of the disease. Vomiting appeard two and a half hours after gavage and the specimen was examined by me. There was no HCl present. The child died.

Several specimens were examined in the same manner and when HCL appeared within two or three days after the injection of antitoxin, it was regarded as a very favorable symptom. I must repeat, what I have said before, that in case of diphtheria the specimens were secured when ejected by natural means and not by the aid of the catheter. A child fed by gavage will frequently eject part of the food and in this manner it was not very difficult to secure specimens for examination.

Charles W., eight years old, was seen by me last year. The child complained of intense headache, was very thirsty and feverish; the temperature ranged from 102 in the morning to 103° F. in the evening. Vomiting was a very distressing symptom, occurring five and six times a day; a specimen was examined for the presence or absence of HCl, but no free hydrochloric acid was found. Three days after the child was first seen, an eruption of scarlet fever appeared all over the body. The temperature ranged between 104 and 105° F. for a period of one week, when the nausea and vomiting subsided. Nothing unusual occurred; the child desquamated; convalescence was established and the child permitted to leave its bed at the end of four weeks. I was again asked to see the child for a very high fever, coated tongue, and anorexia. From the history I learned that the child had eaten too many cakes. The child vomited a very offensive, sour-smelling liquid, which on examination showed traces of HCl. The diagnosis of acute catarrhal gastritis was made.

Conclusions.

From the study of a series of cases the following points may be submitted as worthy of note:

1. In atrophic children and in subacute dyspeptic condition HCl could not be found. The organic acids, lactic and butyric were present. Sometimes acetic acid was also found. There was acidity in all anemic conditions, also in that form of disease resulting from malassimilation, known as athrepsia infantum. The motility of the stomach was found to be greatly reduced when such test could be applied. The salol test was delayed for several hours in some instances. It might be of interest to note that salol was frequently given in the treatment of febrile conditions, and in this manner its effect could be noted.

2. In very young infants, especially in healthy nurslings, there is an excess of lactic acid at the commencement of digestion after the sixth month and until the end of the first year. Free hydrochloric acid can be found at the end of the digestive process in the same proportion as it is found in adults. In healthy children over one year, we find free hydrochloric acid in one to one and a half hours after feeding. Most specimens of chyle examined were procured at least one and a half hour after feeding. Some specimens were procured two hours after feeding and still other specimens two and a half hours after feeding.

3. At the beginning of the digestive process, lactic acid predominates; at the end of digestion, hydrochloric acid is in excess. There is a constant antagonism between the lactic and hydrochloric acids. When gastro-enteric disorder existed, in which both stomach and intestines participated, free hydrochloric acid could not be found.

4. The gastric contents of children fed on *raw milk warmed* to normal blood temperature or about 100° F. always showed a better state of digestion than did those of children fed on milk which had previously been subjected to *superheating*.

5. Cheesy curd so frequently found in hard, rubbery lumps *two and three hours* after a meal of sterilized milk, was invariably found more flocculent and less thick when raw milk was fed in place of the sterilized milk.

6. Constipation, which invariably existed when superheated milk was used, always disappeared without medicinal treatment when the milk was subjected to less heating and fed in a manner that corresponds to what Nature teaches us.

7. Breast-milk has a temperature of about 100° F. and cow's milk should never be fed at any other temperature. The more mechanical manipulation milk is subjected to, the greater will be the risk of exposing the same to contamination. Rather than do good thereby, we do positive harm.

8. Careful study of babies fed exclusively on sterilized milk will show systemic defects and subnormal tendencies to infection; their bony structures will be found to be deficient; spinal disease and deformities can be traced to deficient

nutrition, *which was destroyed* by superheating milk while sterilizing and Pasteurizing the same.

65 East 90th Street.

BIBLIOGRAPHY.

[1] Zweifel. Untersuchungen über den Verdauungs-affecten der Neugeborenen. Strassburg, 1874.
[2] Langendorff. Archiv für Physiologie, 1879.
[3] Raudnitz. Präger med. Wochenschrift, 1887. No. 24.
[4] Reichmann. Zeitschrift für klinische Medicin, B. IX., S. 565.
[5] Sohxlet. Journal für pract. Chemie, Bd. IV., S. 1.
[6] Boas. Centralblatt für die med. Wissenschaften, 1887, 236. Zeitschrift für klin. Medicin, 1888, S. 249.
[7] Klemperer. Zeitschrift für klin. Medicin, 1888.
[8] Maly's Jahresbericht, 1879.
[9] Von Hammersten. Ref. in Maly's Jahresbericht, VII., S. 158.
[10] Boas and Klemperer. Zeitschrift für physiol. Chemie, Bd. X., S. 577.
[11] Hoppe-Seyler. Physiologische und pathologische Chemische Analyse, S. 284.
[12] Breidert, A. Mayer, Kleuze, Dogiel, Engling. Untersuchungen Magensaft und Einwirkung ausserhalb der Organismus.
[13] Kitasato. Zeitschrift für Hygiene, 1888.
[14] Miller. Deut. med. Wochenschrift, 1885-1886. S. 843.
[15] Knisel and Biondi. Zeitschrift für Hygiene, 1887.
[16] Emberish. Darmbakterien des Seuglings, Stuttgart, 1888.
[17] Baginsky. Zeitschrift f. physiol. Chemie, Bd. XII., S. 434. Deut. med. Wochenschrift. 1888, No. 20, 21.
[18] Wieshofer. Krankheiten der Magen und Darmen in Gerhardt's Handbuch der Kinderkrankheiten, Bd. VI., I Abth., S. 456.
[19] Leo. Berliner klin. Wochenschrift, 1889, S. 49.
[20] Einhorn. Stomach Digestion in Infancy. N. Y. Med. Journal, July 20, 1889.

MEDICAL PROGRESS.

MEDICINE.

Hematoporphyrinuria.—The baleful results of the administration of large quantities of sulphonal are shown by rather numerous reports of cases of hematoporphyrinuria. J. TYSON and A. C. CROFTAN (Phil. Med. Jour., May 17, 1902) report an additional case, which is of value on account of the calculations showing the enormous amount of hemoglobin that may be destroyed. In their case about one-seventeenth of the hemoglobin was destroyed and wasted in the urine during twenty-four hours in the form of hematoporphyrin. Such a loss of blood-pigment sustained for a prolonged period of time will soon lead to severe degrees of anemia. This patient had been taking from 20 to 60 grains of sulphonal nightly for several years, but recovered when the drug was stopped.

A Cause for Intestinal Obstruction.—Cases have been observed which present the symptoms of partial intestinal obstruction, and although there are constant movements of fluid feces, there is no passage of flatus and the distention is constantly increasing. The ordinary methods of treatment are of no avail. A case of this kind is reported by F. A. PACKARD (Phil. Med. Jour., May 24, 1902) in which he gave eserine salicylate, gr. $^1/_{130}$, hypodermically and repeated the same in two hours. After the second dose a large quantity of flatus and fluid was passed and the abdomen became flat. Death ensued from asthenia later and autopsy showed a malignant stricture of the sigmoid flexure, while the transverse colon formed a loop dipping down to the pelvis. This was filled with fluid and simulated the ordinary plumber's trap, allowing the fluid but not the gas to escape. The author believes that such loops may follow adhesions from any inflammatory condition of the lower abdominal cavity or even from the administration of a hydrogogue cathartic, if the bowel were paretic. Attention is called to the value of eserine in such conditions and in chronic constipation due primarily to weakness of the intestinal wall. Laxatives probably aggravate such conditions. The author has given eserine sulphate, gr. $^1/_{100}$, morning and evening, with success.

Ascites with Solid Abdominal Tumors.—A cause for ascites which is not generally known is noted by W. OSLER (Phil. Med. Jour., May 24, 1902). He calls attention to the fact that solid tumors of the ovary are usually accompanied by an ascitic condition and he has also noted it in a case of solid tumor of the mesentery. The question of operation is a very important one; the solid ovarian tumor is usually benign and the cases he has seen have uniformly recovered.

An Unusual Case of Diphtheria.—An interesting case, uncertain as to its etiology until a postmortem examination had been made, is reported by HUNSBERGER and BERGEY (Phil. Med. Jour., May 24, 1902). The patient, a child three years of age, was afflicted with a croupy cough and with signs of what seemed to be a capillary bronchitis. Death took place on the third day, apparently from asphyxia. Sections of the lung after autopsy showed the acini, and bronchioles completely blocked with fibrin, blood-cells, and large numbers of diphtheria bacilli. Pure cultures of the bacilli were also secured from fresh specimens of the lung. The authors point to the value of throat cultures in cases with a history of persistent croupy cough even when throat symptoms are absent.

Determination of the Stomach Contour.—A method for determining the inferior and in certain cases the superior curvature of the stomach is submitted by KNAPP (Deut. med. Woch., May 1, 1902). It can be employed without the assistance of apparatus. The patient, breathing quietly, assumes the dorsal position on a hard, flat table, with abdomen exposed. The observer standing at the side or at the shoulders brings his eyes down to the level of the abdomen and watches carefully the respiratory waves passing over its surface. After a few trials a delicate transverse line can be detected passing upward during inspiration which corresponds to the curvature of the stomach. The point at which this line stops at the end of an inspiration is carefully marked and is then verified by percussion as follows: Two fingers of the left hand are placed on the abdomen and closely approximated with the marked line between them. Very delicate alternating percussion over both fingers should elicit different percussion notes. The greater curvature can thus be determined and in ptotic conditions the lesser curvature also.

Blood-examinations in Diagnosis.—Without seeing the patient one would not be justified, writes C. F. MARTIN (Montreal Med. Jour., Mch., 1902) in making a diagnosis from the blood alone, even in chlorosis, pernicious anemia or leucemia. The blood-picture of chlorosis may be due to constipation, general debility, nephritis, lues or general tuberculosis. In pernicious anemia the variations from the type are so wide and numerous that one can scarcely speak of its having a pathognomonic blood-state. The greatly altered shape and size of the red blood-cells, the high color-index, the nucleated red cells, especially megaloblasts, often are not all found, or at least not till long after the clinical diagnosis is made. Some also regard the presence of megaloblasts in carcinoma as by no means of great rarity. In Cabot's 110 cases, 31 showed no high color-index. In 24 cases at the Royal Victoria Hospital the color-index was plus in only 6, low in 5, normal in 5, and in the remaining 8 increased at times during the course of the disease and decreased at other times. While often the red-cell count was below two millions, it frequently reached nearly normal. In some cases of sarcoma and of pertussis, a lymphocytosis of over 100,000 is recorded, so even leucemia is not certainly determined by a blood-examination. At times, too, during a remission of the leucemia, the blood may return nearly to normal. In regard to leucocytosis, many cases of appendicitis, typhoid perforations and obscure pus-formations have been accompanied by normal leucocyte-count, while simple catarrhal inflammations have oc-

casioned a leucocytosis (say 18,000). Generally, however, 20,000 leucocytes would mean pus in a surgical condition, though an absence of leucocytosis might accompany extensive suppuration. The positiveness of the Widal test, the finding of plasmodium malariæ, and the discovery of bacteria in the blood are well understood, but the other blood-examinations are merely corroborative or negative and their interpretation must be made with caution.

A New Method of Percussion.—The value of percussion in the examination of patients has been recognized for many years and various methods of applying it have been devised, of which two in general principle remain, the digital and the instrumental. Instrumental percussion, in which a small hammer with a suitably-padded head and an ivory shield are used, gives on the whole much better results than the other, so far as the mere character of the note sounded at each blow is concerned. There is, however, one element of vital importance which has caused it to fall into second place, compared with the digital method—it does not permit the examiner to perceive the varying degrees of resistance under the finger. This very element of resistance is most important in determining the character of the mass beneath the examining hand. J. PLESCH (La Sem. Méd., Apr. 23, 1902) has sought to improve the note obtained by the digital method without sacrificing this element of perception of resistance. This he has apparently succeeded in doing by the following ingenious and simple procedure: The finger of the left hand, instead of being laid flat upon the part of the body to be examined, is opened at right angles at the joint between the proximal and the middle phalanx, and the ball of the finger thus flexed is applied to the desired point, while the index and ring fingers on either side help to support the middle finger in this position. If, now, the blow be struck over the knuckle of the finger, it is transmitted to a single point of the patient's body and in a way to bring out a note almost as good as that obtained with instruments.

Morphine-poisoning and Normal-salt Solution.—It is well known that dilution of poisons in the blood, otherwise fatal, is a very ready means of saving life. No better example can be furnished than that of blood-letting followed by saline infusion in cases of attempted suicide by illuminating gas. The infusion of salt solution was recently employed with apparently marked success by E. F. WILLOUGHBY (Lancet, May 10, 1902) in a case of morphine-poisoning of remarkable severity, since the patient had taken eight grains of the drug without having acquired any previous tolerance. For several hours continuously the ordinary well-known means of treatment were employed without much success and finally a saline infusion was given. Immediately afterward the patient began to improve and from that moment on recovery was assured. The observer feels that this step, together with the administration of permanganate of potassium by mouth and by rectum for the purpose of breaking up the morphine eliminated through the digestive tract, was probably chiefly responsible for the patient's recovery.

Embalming the Dead.—It often happens that the only person in a small community available for preserving a body is the physician, although, of course, this duty belongs to the undertaker. There may be none at hand soon enough to do it properly. For this purpose the following simple suggestions are offered by J. G. GARSON (Lancet, May 10, 1902): In temperate climates the best period for embalming is about twenty-four hours after death, when as a rule rigor mortis has nearly or totally passed off and the tissues have become relaxed, but no marked signs of putrefaction have begun to appear. The presence of such putrefactive changes is not, however, any bar to the operation, by which not only will the further progress of these changes be at once stopped, but the parts which have become affected will often greatly improve and sometimes become restored to their natural appearance. Having informed himself as to the purpose for which the embalming is required the operator has to determine upon his plan of procedure and the composition of the solutions to be used. Both are points of considerable importance. Regarding the plan of procedure one must consider whether the work is for temporary or permanent preservation of the body. It must include the introduction into the tissues through the blood-vessels of a suitable preservative fluid and the external application of the same to the surface of the body. The latter is necessary to prevent the tendency which the epidermis has to separate from the dermis. Gas or fluid in the abdomen, thorax or elsewhere should be removed and the preservative injected in its place. To enable the different parts of the process to be performed with facility the body should be placed on a long narrow table like an ordinary surgical operating-table. Some artery must be selected through which the injection is done. The femoral in Scarpa's triangle is commonly chosen or the brachial just below the armpit. Better than either in the opinion of this author is the abdominal aorta, which after death lies almost in contact with the anterior abdominal wall and can be reached through a small incision just below the navel. While the abdomen is open through the same wound the thorax can be very conveniently and efficiently filled with fluid and likewise the abdomen itself, if necessary. The progress of the embalming-fluid through the large veins of the abdomen can also be watched. If the wound be carefully closed afterward no objection can be raised to it by any sensible family. The fluid is forced by air-pressure, by means of a pump and cylinder, or, preferably, by hydrostatic pressure. To obtain this the vessel containing the fluid is raised to a height sufficient above the body to maintain a slow even flow. No matter what plan is followed, it must be remembered that the blood-vessels after death rupture with comparative ease. After this accident the continuation of the process is very difficult. Of the simpler embalming-fluids this author recommends the following: Bichloride of mercury, chloride of zinc, or chloral; the bichloride of mercury is upon the whole the best and least expensive. The strength he employs is at the early stages of the process two grains of the bichloride of mercury to each ounce of the injecting fluid. The basis of the fluid he makes methyl alcohol in order to obtain its desiccating influence. After putrefaction has been begun the strength of the solution must be considerably increased. He has found that about nine liters (2 gallons) for an adult male or five liters for an adult female are as a rule the proper quantity. Hence the formula for an adult male would be 640 to 900 grains of bichloride of mercury, 10 to 80 ounces of glycerin and 2 gallons of methyl spirit. There are several other means of accomplishing this object which are less simple and this one is mentioned only because it is easy to remember and the materials are easily purchased and prepared.

Diabetes Insipidus and Paralysis of the Bladder.—A case of diabetes insipidus presenting some unusual features is described by C. POSNER (Berl. klin. Woch., May 12, 1902). The patient, a man forty-eight years of age, had had great thirst and frequent urination for six years. After that time he began to feel uncomfortable in the region of the bladder. It was found that urinary retention existed, over two liters of residual urine being present after the voluntary discharge of 250 cubic centimeters. Systematic catheterization

became necessary. Four to six liters of urine were secreted daily, of which one-fourth was voluntarily discharged, the remainder being drawn by catheter. The patient had never had gonorrhea and had no urethral obstruction; the prostate was normal. Disease of the central nervous system was suspected, but no evidence of tabes or myelitis of the lumbar cord could be found. The urine had a specific gravity of 1002 to 1004; some pus was present (after frequent catheterization) and a corresponding trace of albumin; there were no casts. Neither by massage, faradization, nor frequent relief of the bladder by the use of a catheter could the tone of the bladder be restored. Internal medication with a view to the reduction of the quantity of urine failed. The paralysis of the bladder may have been due to degeneration of the musculature, but no such case is recorded as occurring in a patient so young. The loss of tone might reasonably be regarded as the direct result of the polyuria. Posner considers it more probable that the polyuria and paralysis of the bladder are joint effects of a common cause. Diabetes insipidus is generally regarded as a nervous affection, having its seat in the medulla oblongata, in the vicinity of the fourth ventricle. Cases are reported in which hemiplegia, facial paralysis, disturbances of the trigeminus were associated with polydipsia and polyuria. If disease of one part of the central nervous system may be associated with polyuria, why not disease of another? Enuresis, involuntary urination, occurs in association with both diabetes mellitus and diabetes insipidus; this also is probably a sign of nervous weakness. Obstipation was present in Posner's case, permitting the hypothesis of an associated paresis of the intestine.

Paranephritic Hematic Cyst.—Shortly after marked purgation a young woman presented signs of illness which led to the diagnosis of perforative appendicitis. The patient was seen by M. WALTHER (La Presse Méd., May 3, 1902), who preferred to regard the case as one of internal hemorrhage. Examination under chloroform revealed the presence of a large tumor in the right flank, close to the normal site of the kidney. Lumbar incision exposed a huge hematic cyst occupying almost the entire lumbar region; the contents included over a quart of liquid blood and some large clots. This cyst was situated above the upper pole of the kidney, the latter being crowded downward and backward. There was no fresh hemorrhage at the time of the operation. The wound was drained and recovery followed without complications. Microscopically the wall of the cyst was found to consist of fibroconnective tissue without a trace of epithelium; hence the cyst was probably paranephritic and not a cyst of the suprarenal body. The pathogenesis of the case remains obscure. There was nothing in the history to lead to the diagnosis of traumatic hematoma.

Purpura Metamerique.—Without the aid of a blood-examination, it would have been impossible to say promptly whether a case described by H. ROGER (La Presse Méd., May 10, 1902) was variolous or purpuric. The patient, a woman thirty-four years of age, became suddenly ill, complaining of headache, lumbar pains, and malaise. Two days later an eruption appeared in the groins, and within forty-eight hours from the time covered the gluteal region, the axillæ and the major joints. The eruption consisted of hemorrhagic points of pin-head size, which did not disappear under pressure, and which in places were almost confluent. A similar rash is described by Roger as occurring in cases of variola, and the latter disease was considered for this reason and because the patient had last been vaccinated twenty years before her illness and had been exposed to smallpox only a short time before her eruption appeared. The patient however, felt comparatively well. Her temperature four days after the appearance of the rash was 38° C. (101.3° F.). No papular nor pustular element could be found. On the sixth day the purpuric eruption was general, covering all but the face; it was less abundant posteriorly than anteriorly. The general condition of the patient continued excellent; the temperature was now normal; pruritis had disappeared. On the tenth day the eruption began to fade; on the seventeenth day no cutaneous sign remained. The patient was unsuccessfully vaccinated on the fourth and tenth days of her illness. Examination of the blood was made with a view to determining the presence or absence of the large number of granular mononuclear leucocytes which, according to Roger and Weil, Courmont and Montagard, are present from the very onset of variola until convalescence is far advanced. The leucocyte formula was normal; myelocytes were not present. On account of the minuteness and systematic arrangement of the hemorrhagic spots, Roger suggests that the case might appropriately be called *purpura minutissima métamérique*.

SURGERY.

Plastic Operations on Tendons.—The success which has attended the operation of tendon transplantation has caused certain shortcomings to be overlooked; for undoubtedly the increased force gained in one part must be offset by a corresponding loss of power in another. This situation has led, especially in paralytic conditions, to a substitution for the usual tendon transplantation method, namely, the implantation of certain tendons into the periosteum, so as to bring about a passively normal attitude of the affected part. J. WOLFF (Deut. med. Woch., May 1, 1902) suggests going a step further by forming a new bone insertion instead of a periosteal one. A groove is cut at a selected point, the cut tendon laid in it with the end projecting slightly, and the periosteum sutured over it. The projecting end is also sutured to the neighboring periosteum. This condition is considered to approximate closely the normal insertion of the tendon. The author has employed the method in five instances. In two cases of paralytic equinovarus he cut the tendons of the tibialis anticus and the extensor longus hallucis at a point about one-third of their length from the insertion and fixed the ends in grooves on the cuboid and the tuberosity of the fifth metatarsal. The tendons of the extensor communis digitorum were at the same time correspondingly shortened. In a case of paralytic pes valgus he fixed in a similar manner the tendons of the peroneus longus and brevis in a groove on the scaphoid. The successful issue in these cases also led to the trial of another method in which the power of the antagonizing muscles was entirely disregarded and the particular muscles were employed which originally subserved the function in question. Thus, in a second case of pes valgus he inserted the shortened tendon of the tibialis anticus into the inferior surface of the scaphoid and in a case of radial paralysis fixed the tendon of the extensor carpi ulnaris into the base of the second metacarpal, the hand being kept in a position of strong flexion and supination. The results, as to both motion and position, were excellent.

Fixation of a Movable Liver.—From an examination of the literature of this subject, J. H. CARSTENS (Jour. Am. Med. Assoc., May 17, 1902) has found 98 cases reported and believes that an injury, a severe fall, or heavy lifting, or, in a few instances, the development of a malignant growth in the liver, is the usual cause. The prominent symptoms are distress and feeling of weight in the region of the liver, often considerable tympanites and intestinal indigestion, alternating constipation and diarrhea, marked nervous symptoms

(headaches, restlessness, hypochondriasis, etc.). Tight bandaging with proper tonic treatment, usually affords relief. Few attempts at operative interference have been made. The author reports a case, that of a woman, forty-eight years of age, weighing 220 pounds, in which these symptoms were noted. The thick abdominal walls prevented examination. When the abdomen was opened the right lobe of the liver was found to be prolapsed into the pelvis. The liver was replaced, corresponding areas were denuded of peritoneum on the anterior surface and the parietes, and the raw surfaces were brought together. The coronary ligament was then stitched to the upper angle of the wound. The patient made a good recovery and remained free from symptoms.

Gunshot Wounds.—Some interesting observations on the healing of gunshot wounds have been made by a field surgeon in South Africa, A. A. MARTIN (Quart. Med. Jour., Brit., Vol. X., No. 3). He notes the frequency with which the scars take on a keloid character, the wound healing well. In one ward eight out of twenty-five cases had keloid scars, some large and increasing rapidly, others small and stationary. The most obstinate gunshot wounds to treat were those in which important nerves had been torn by the bullet, or in which the nerves had escaped the bullet, but were caught in adhesions of the closing wound.

Glycosuria and Diabetes.—Sugar in the urine has for many years been the *nole me tangere* of surgery. Recently, however, the subject has been looked into with a more critical spirit and the following distinction among the various cases of this condition is made in about the following terms: (1) Those in which glycosuria is caused by the surgical lesion. (2) Those in which it causes the surgical lesion. (3) Those in which the two are independent of and do not influence each other. (4) Those in which it exerts a baneful influence upon the other disease or the injury. Furthermore, glycosuria may be merely temporary apart from the surgical disease or injury, as after certain drugs, notably opium and chloroform (toxic form), or it may be of alimentary origin. A diagnosis is often impossible, because transitory glycosuria may pass imperceptibly into true diabetes. Concerning the first class, glycosuria is noted as a complication in a great variety of surgical ailments and injuries, which fall under two main groups, injury and sepsis. Redard classified them into the following groups: (1) Injury of the central nervous system, (2) other injuries, like fractures and operations, (3) inflammation, (4) cellulitis, lymphangitis, and erysipelas, (5) carbuncle, (6) gangrene, (7) septicemia. The second class includes patients in whom surgical disease is caused by the glycosuria. Such are probably very rare. Legendre, however, has collected 102 reports of operations for cataract, apparently of this origin, with 99 successes. Thus the mortality in this class as illustrated by such diseases as cataract is very low. Independence of each other as to the medical and the surgical disease is noted in the third class. For convenience the following groups and their statistics are made: Operations on the face and mouth give a total of 16 with 11 recoveries or a percentage of 68.75. Of the mouth-and-lip cases, 12 with 9 recoveries, making a percentage of 75. Operations on the breast reach a total of 19 patients, 13 of whom recovered, with a recovery percentage of 86.6, while the percentage of successful operations was 89.47. Operations on the female generative organs, 24 in number, occasioned 5 deaths or a percentage of 76.25 of recoveries. Successful operations were 79.16 per cent. The plastic operations were particularly successful. Operations on the male generative organs were very unpromising. Six operations lost three patients, or a total of 50 per cent., but in two of these no precautions were taken against diabetic coma. Abdominal operations other than those on the generative organs and the bladder, 15, with 11 recoveries, or a percentage of 73.3. In the fourth class, in which the diabetes is known to exert a baneful influence upon the other disease or injury, it is manifest that the operative results will be less promising. It is interesting, however, to note as the principal point that the former fear of sugar in the urine is somewhat outgrown.

The Latent Period in Abdominal Inflammation.—Any one who has had opportunity to observe any of the grave abdominal inflammations has had occasion to note that in a large number of them there comes a quiescent or latent period which always deceives the patient and may throw the attending physician off his guard by indicating improvement, when as a matter of fact it is always a sign of danger. There is probably no disease in which this is more emphatically true than in appendicitis, when after gangrene or rupture of the appendix has set in the patient has comparatively little pain for a few hours and feels much better. A. H. TUBBY (Lancet, May 10, 1902) presents an interesting paper upon this subject, enumerating the common conditions during which it may be expected. These are in his opinion the following: Traumatic rupture of the intestine, perforating ulcer of the intestine or stomach, injury to the peritoneal connections of the viscera, acute diseases of the genital organs, especially in women, and acute appendicitis. The symptoms which he considers should always be looked after in these diseases as guides to what the real state of the patient is are these: The pulse and temperature may rise together in due proportion, or there may be little fever with feeble pulse, or a sub-normal temperature with an exceedingly rapid pulse. This last of all is the most important single indication for immediate operation. In perforating ulcer of the duodenum and stomach the best single symptom calling for interference is rigidity of the abdomen with tenderness. Distention, even moderate in degree, is likewise of special importance, particularly when it persists after enemata have been given. Vomiting is apt to be absent during the quiescent period, especially if it appeared with the beginning of the trouble. If it reappears in spite of good feeding, nursing and treatment, its importance cannot be overestimated. The preponderating significance of leucocytosis is to any modern man almost a self-evident proposition. Lastly the complicating symptoms which are referable to the chest always call for exploration. There can be no question that suitable knowledge of all these points will decrease the death-rate now ascribed to operation, because the patients will be brought to the surgeon when the hope of saving them is greater.

Diseases of the Rectum Due to Gonorrheal and Syphilitic Infection.—Cases of rectal disease usually present themselves for treatment when the pathological process is well advanced. The majority of such cases seen by PROF. KÖNIG in Berlin occur in women (Berl. klin. Woch., May 5, 1902). The patients complain of tenesmus, of severe pain during and after defecation, often of constipation. Pus and blood precede and follow every movement of the bowels. Gonococci are rarely found in the purulent discharge. Reduplications of the skin about the anal opening may or may not be present. Within the anus various alterations occur in the rectal mucous membrane, and these changes may be confined to the pars sphincterica or may extend well up into the ampulla, or even as far as the sigmoid flexure. The rectal wall may contain ulcers with thick walls; the lumen may be markedly contracted, refusing to admit the examining finger; the thickened and contracted rectum may often be distinctly palpated, a cord-

like mass, through the vagina; following the period of acute inflammation the perirectal tissues, which often share in the inflammatory process, became adherent to the thickened rectum, the latter containing dense masses of scar-tissue. Perirectal abscesses form during the inflammatory stage and are followed by stubborn fistulæ. Febrile cases characterized by anorexia and emaciation in addition to the local symptoms are not rare. Severe cases of ileus may have their origin in the disease just described; a fatal peritonitis is occasionally the result of suppurative perforation of the upper part of the rectum. The majority of these cases of rectal infection are of gonorrheal origin; a few are syphilitic. König has never been successful in his attempts to treat these cases internally and by inunction as cases of syphilis. The stricture of the bowel is an important feature; a collection of pus is formed above the stricture and new ulcerations are thus favored. The stenosis may be treated by bougies if localized near the anal opening, but if it extend beyond the sphincter tertius it cannot be treated in this way, nor can methods of dilatation be employed during the period of diseased mucous membrane, abscesses and fistulæ. If the disease be limited to the region of the sphincter, circular resection can be practised. König describes this operation, performed successfully in three cases. In more extensive cases, presenting ulcers, abscesses, fistulæ, cicatricial stenosis, etc., and involving the upper part of the rectum, König regards all treatment as destined to failure unless it begin with colostomy and so afford rest to the diseased rectal mucous membrane. Only rarely can the artificial anus be afterward dispensed with. If the rectum present extensive ulcerations and cicatrices with stenosis at the time of operation, it will contract still further when deprived of its function, and, though it may heal, it will become permanently useless.

Arterial Hyperemia and Regeneration.—That the repair of wounds is accompanied by a hyperemia of the tissues in the immediate neighborhood of the wound is a matter of ordinary clinical observation. ERWIN LIEK (Archiv f. klin. Chirurgie, May, 1902) found that arterial hyperemia favors regeneration of tissue. He caused an artificial hyperemia of the lobe of the left ear in dogs, by dividing the left sympathetic nerve in the neck. Similar superficial wounds were inflicted on both ears. The one on the left ear healed more quickly in every case. The same was the case with deep wounds with considerable loss of tissue.

Paraffin Injections to Correct Nasal Deformities.—A simple and apparently successful method of improving the appearance of deformed noses has been used during the last two years, having been first tried by Gersuny of Vienna. H. SMITH (N. Y. Med. Jour., May 17, 1902) reports three cases in which he has obtained very satisfactory results. Experiments upon animals show that there is no inflammatory reaction on the part of Nature and only a slight attempt at encapsulation. The paraffin used has a melting-point of 98.6° F., and is injected at a temperature of about 115° F. The area is cocainized and then the paraffin is slowly injected, the point of the needle being beneath the site of greatest deformity. The paraffin remains plastic about half a minute and can be molded as desired during this time. The pain experienced is very slight and swelling usually disappears within a few days. Some care must be taken to prevent the paraffin passing inward toward the canthus of the eye. Paraffin prosthesis is not confined to the nose alone, but is being used after mastoid operations for filling in excavations immediately after the wound has been closed.

Surgical Treatment of Nephritis.—Founded upon the knowledge that cirrhosis of the liver is frequently relieved by operative interference, the surgical treatment of nephritis has been urged with the belief that if collateral circulation can be established around the kidney the symptoms of nephritis will be greatly diminished or will entirely cease. Edebohls was probably the first to decapsulate a kidney and attach it to its fatty capsule with the sole idea of treating a chronic nephritis. He had previously noted the beneficial results in such cases when operated upon for movable kidney, and concluded that the improvement was due to the increased circulation. R. GUITERAS (N. Y. Med. Jour., May 17, 1902) has recently operated upon three cases, but is unable as yet to draw any conclusions from them. He believes that the literature upon the subject would seem to indicate that nephropexy is always a beneficial procedure in a movable kidney in a patient suffering from chronic nephritis and that nephrotomy has proven to be a valuable operation in unilateral chronic nephritis associated with hematuria and nephralgia. The value of complete decapsulation of the kidney as a therapeutic measure in chronic nephritis has not yet been determined, for it has not yet become extensively employed.

Radiotherapy for Cancer.—Sufficient work has not yet been done to enable one to draw very valuable conclusions in regard to the possibilities of this line of treatment in malignant disease, but it has already been proven that much benefit is frequently obtained and the hopes for the future are exceedingly bright. W. J. MORTON (Med. Rec., May 24, 1902) believes that the effect of the X-ray in the cure of disease is due to a primary chemical reaction, affecting in turn the metabolic processes. Considerable skill is necessary in order to manage these exposures properly. Instead of ceasing treatment at the end of about two weeks, by which time a dermatitis is usually induced, the author very carefully avoids too great a reaction, but continues the exposures and endeavors to cause a sort of "tanning" of the skin which, when induced, will allow a much longer exposure without any harmful results. He has used this method of treatment in both external and internal growths and has obtained some very remarkable results. Even in operable cases he frequently employs this method in order to clear up certain outlying nodules and to cause the tumor to become more circumscribed. Furthermore, it may be used after operation to preclude the possibility of a recurrence.

Subarachnoidean Anesthesia.—After having employed this method of anesthesia upon 120 cases, S. TSAKONA (Gazette de Gyn., Apl. 15, 1902) declares that it has proved a complete success. It is past the stage of experiment and is now entitled to a place among the other recognized methods of anesthesia. The author does not believe that the two fatal cases reported by Tuffier were due to the cocaine, as both cases had serious heart lesions and undoubtedly died from shock. The hue and cry about ulterior effects upon the cord and its membrane are not justifiable, but are simply the objections of the jealous and of the ignorant. The symptoms described as resulting from the injection of cocaine are the results of faulty preparation of the drug and of bad technic. The doctor urges the importance of rapid operation under this form of anesthesia and the necessity of careful asepsis.

Arteriovenous Aneurism.—Anything from the facile pen of that great British master of surgery, Sir Frederick Treves, is always welcome—partly because of its worth, partly for the sparkling and vivacious English in which he couches his remarks. The leading article in the British Medical Journal (May 10, 1902) is a résumé of four cases of arteriovenous aneurism which he gleaned from the veldt during the Boer war and upon which he subsequently operated in England. Aside from the technic of the operation his remarks as

to the increased frequency of the lesion are very opportune. It appears that of late years it has been almost unknown. This was due to a cessation of "bleeding" at the median basilic vein and to the fact that daggers are now much less used in the settlement of street brawls than they were forty years ago. Within the last three years, however, since the various "civilized" wars have been in progress, the ordinate curve which graphically represents this injury has taken a sudden leap upward. This is due to the use of the small-caliber high-velocity bullets. Spontaneous cures in these cases does not occur, but the death-rate from neglected cases is not nearly so high as that found in the usual arterial aneurism. Local trouble, such as gangrene and rupture, is rare, but functional disturbances are common. An almost solid edema, which merits the name of elephantiasis, is not unknown and the part always becomes so useless as to cripple absolutely the individual. The diagnosis of the precise character of the arteriovenous communication—whether it be a true aneurism or an aneurismal varix—is practically impossible. Each has the harsh buzzing bruit, the vibratory thrill, the tense deeply fluctuating tumor, the indefinite outline. The treatment of all cases consisted in proximal and distal ligature with removal of the sac, if present; in the case of a varix it was left. All the patients were fully and permanently cured.

PATHOLOGY AND BACTERIOLOGY.

The Staining of Mast-Cells; Remark on the Percentage of Mast-Cells in the Human Blood.—The number of mast-cells in normal blood is ordinarily stated as less than ½ per cent. of the total leucocytes. L. B. GOLDHORN (N. Y. Univ. Bull., Apr., 1902) has reported hundreds of cases as containing less than ½ per cent. of mast-cells, but recent experiments with improved staining methods lead him to believe that the normal average percentage is over .75. To many blood-workers the well-stained mast-cell is a novelty, because stains usually employed do not clearly show the granules present in these cells. The solution ordinarily recommended is Ehrlich's dahlia, in which the fixed smear is immersed for several hours, washed and decolorized in alcohol. Jenner's stain shows mast-cells, but is apt to precipitate the smear; this precipitate can be dissolved in alcohol. Goldhorn declares that in order to demonstrate mast-cells it is only necessary to saturate wood-alcohol with dahlia or methylene blue and to pour this solution on a freshly-made smear without previous fixation. The preparation is washed in water for a few seconds and dried in air. The most important details of leucocytes are shown by the use of the following simple solutions: Saturate wood-alcohol with methylene blue and immerse the blood-smear in this for fifteen seconds. Wash in water and stain in ½ per cent. aqueous eosin for from fifteen to thirty seconds. Wash and dry in air. Bone-marrow may be successfully stained in this way. It was while using this dye that Goldhorn so frequently encountered mast-cells that he was led to make differential counts and discovered that the prevailing idea of the percentage of mast-cells present in health is erroneous.

On the Existence of Leucomains of Diabetic Origin.—Dr. Dominicus was perhaps the first to suggest a toxic action in diabetes, due to a special substance produced in the intestine on account of the lack of normal pancreatic juice. He supported his contention by injecting into the peritoneum of a healthy dog feces obtained from a diabetic dog and macerated in alcohol and water; by this means glycosuria was produced. But such experiments could not prove the existence of toxic substances in diabetic blood. More recently Leo has produced a glycosuria in dogs by causing the ingestion of diabetic urine or of an extract of such urine. As a control normal urine to which sugar was artificially added was employed. Evidently diabetic urine contains an unknown toxic substance. R. LEPINE (Berl. klin. Woch., Apr. 21, 1902) has repeated Leo's experiments and reports that similar effects can be obtained by the use of non-diabetic urines, notably those of patients having pneumonia. By Gautier's method Lepine and Boulud obtained from blood leucomains which, dissolved in water and injected in minute quantities under the skin of guinea-pigs, produced a more or less lasting glycosuria. While extract of the blood of a normal dog may produce a transient glycosuria, that obtained from the blood of a depancreatinized dog yields a glycosuria of a much more durable nature. Part of the function of the normal pancreas is the destruction of diabetogenic toxic substances.

Bacteriology of Acute Rheumatic Fever.—In summing up the main points of the present position of the bacteriology of acute articular rheumatism, A. J. LARTIGAU (Albany Medical Annals, May, 1902) formulates the following conclusions: (1) Acute articular rheumatism is an infectious disease very probably induced by a specific bacterial excitant. (2) The claims of Achalme and others that the infection is attributable to an anaerobic bacillus have not been sustained and are very probably untenable. (3) The correctness of the contention advanced by Singer that the disease is a modified pyemia is very doubtful. It is probably much safer to say that secondary infection with pyococcal bacteria is common in this disease. (4) The diplococcus isolated by Wasserman, Poynton and Payne, and several others, is probably a modified streptococcus. All of the inoculation results induced by this assumed specific diplococcus may be obtained with the streptococcus pyogenes. The demonstration of this organism, then, as the causative factor of rheumatic fever is incomplete. (5) The specific bacterial excitant of the disease still remains to be discovered.

Etiology of Cleft Extremities.—By cleft hand is meant, according to Kümmel, a partial or complete division of the middle fingers which may or may not extend to the carpus. C. PENTHUS (Deutsch. Zeit. f. Chirurgie, March, 1902) gives a very full account of a Chinese patient in whom the defect was very marked. Drawings show it to have been almost absolutely symmetrical in both hands and feet. In discussing the etiology of this condition he has gone very fully into the literature of the subject. One of his most interesting conclusions is that the defect is almost always inherited from the father. There are two great classes of causes, *i. e.*, so-called internal, or endogenous, and external or exogenous. The latter, being mechanical in character, is not difficult to grasp. It depends upon an abnormal production of amniotic fluid, sometimes there being almost an absence, at other times a great excess. Either of these conditions may give rise to localized points of pressure over the tender processes which give origin to the extremities; nevertheless it is not possible to conceive of such points being so symmetrically distributed as to stultify all four extremities in exactly the same manner. Obviously it is necessary to presuppose the existence of an inherited tendency to malformation in the so-called endogenous type. Another curious factor about the exogenous injuries is that, inasmuch as it is transmitted from the father, it is not clear how variations in the amount of amniotic can be traceable to him, whether the fluid take its origin from the mother or from the child. Attempts have been made to explain these malformations on atavistic grounds, but, while it is not difficult to do so in the case of polydactylism, one finds an immediate difficulty in the case of cleft extremities, inasmuch as the ances-

tral type is definitely shown to have had more than five fingers. It seems that all cases of symmetrical malformations, particularly those in which the digits are lacking, are to be referred to endogenous causes. This is merely an expression to denote one's ignorance of the real etiology. It is as difficult of approach as is the explanation of why an egg and a spermatozoön should unite to form a man.

Germicidal Action of Sublimate in the Blood.—The intravenous injection of sublimate has been suggested for various diseases dependent upon the proliferation of germs in the body. Recently Bacelli has recommended it for the foot-and-mouth disease of cattle. It was thought that the strong germicidal action of the drug would be manifest to the same degree in the blood-stream as it is in the test-tube. A. SERAFINI (Münch. med. Woch., Apr. 22, 1902) selected anthrax for his experiments, because in this disease multiplication goes on directly in the blood and thus the most suitable conditions for testing the correctness of these views would be afforded. Rabbits were injected subcutaneously with the cultures and large doses of sublimate were introduced into the veins eight and a half, sixteen and twenty-four hours later. In other rabbits the bacteria and the antiseptic solution were both injected into the veins within a few minutes, but no matter how the experiments were varied the rabbits all died within approximately the same time as did the control animals and many highly virulent germs could be isolated from the blood. The same results were obtained with the bacillus of fowl-cholera. Unless a specific action of sublimate exist, as in syphilis, it thus seems that little benefit can result from such treatment, probably because the dilutions which safe doses bring about with the blood are too great and less effective proteid combinations too readily form. The author is thus inclined to doubt the results of Bacelli in foot-and-mouth disease, for he can explain them only upon assuming a special vulnerability of the unknown germ of the disease to sublimate, which, in the present experience of bacteriology, seems doubtful.

Pathogenesis of Chloroma.—That a given disease is one of extreme rarity is no reason why its observation should be uninteresting. H. G. MELVILLE DUNLOP (Brit. Med. Jour., May 3, 1902) presents in very great detail the history of a typical case, the description of which is rendered very graphic by the introduction of admirable photographs. Chloroma is an exceedingly rare disease; many surgical text-books omit a description of it. But twenty-seven cases are recorded, and, inasmuch as the condition is one which on section is unmistakable, though the diagnosis is very difficult during life, it is probable that almost every one in which an autopsy has been done is accounted for. The disease consists in the rapid, almost fulminating, development of tumors from the periosteum of the head and face. Coincidental with their development metastases are planted in every nook and cranny of the body. The singular phenomenon in connection with this general distribution is that the entire nervous system invariably escapes. No secondary growth has ever been seen in any part of it. Meantime the primary focus on the face is not idle and huge tumors develop, the center of growth seeming to occur in most cases within the orbit, and there is absolute destruction of the supporting framework, absorption of the temporal muscle and filling of its fossa with pronounced and destructive exophthalmos. In fine, all the bones of the upper face and of the anterior floor of the skull are ultimately converted into this peculiar green tumor. Inasmuch as these growths cause symptoms which in almost all details resemble leucemia, and because their microscopical appearance supports this view, they are now pretty universally held to belong to the lymphosarcomata. The source of the green pigment has called forth a very keen discussion. It varies from a yellowish to a bright grass green and fades to a dirty brown a few moments after the section has been exposed to the air. The green has been ascribed to decomposition, but this is out of the question. Virchow, Dressler and Chiari are one with Huber in believing that the color arises from fine adipose granulations which are found in great numbers in and among the cells. In view, however, of the disappearance of the color in air and on immersion in fluids that do not dissolve fat, it is much more probable that the color is due to some unnamed compound allied to lipochrome. The prognosis of this rare condition is absolutely bad. Exhaustion kills on an average in from five to six months.

The Secretory Energy of Diseased Kidneys.—The total daily work performed by the kidneys during the conditions of acute nephritis and amyloid degeneration is, according to the researches of F. LOETBEER (Hoppe-Seyler's Ztft. für physiol. Chemie, Apr. 17, 1902), less than normal. In interstitial nephritis, when there is a sufficient supply of water, the work corresponds periodically to that performed by normal kidneys; nevertheless the regular excretion of uric acid does not occur in this condition. If one consider the excretion of water as the measure of renal activity and not as a means for the elimination of the solid constituents, in the condition of interstitial nephritis the work performed would be greater than normal. Acute nephritis and amyloid degeneration show an irregularity in the elimination of all the mineral constituents; indeed, from day to day this irregularity varies between the limits of retention and excessive elimination. At the same time the excretion of the nitrogenous constituents shows a more constant retention. The latter indicates a real insufficiency of the parenchyma. The fact that the mineral constituents, although varying, are secreted in sufficiently large quantities, proves that they are not the cause of uremia. One should rather look to the continuous and persistent retention of nitrogenous bodies in the tissues as the cause of the complex clinical manifestations of uremia.

Tetanus Toxin.—Many authors have sought to ascertain whether or not the toxins of tetanus were present in the organs of those who die of tetanus. P. PASQUINI (La Riforma Medica, Apr. 25 and 26, 1902) reviews the work done in this line of research and gives the results of an extended series of experiments personally conducted. The technic of the work is thus described: Guinea-pigs were inoculated with a small quantity of tetanus culture and immediately after death the organs were excised, triturated in a mortar with sterilized sand, then submitted to a pressure of 400 atmospheres by means of Buchner's press; the substance so extracted was treated with sodium carbonate, 1 to 2 per cent.; the solution was precipitated with alcohol; the precipitate was dried, and 4 grams of it injected in the dorsal region of a guinea-pig. Kidney, liver, lungs, heart, muscle, mesenteric and subcutaneous glands, brain and spinal cord were used in the experiments, the results being negative in all, except from injection of extracts of brain and cord, which alone induced symptoms of tetanus. The author therefore concludes that the toxin of tetanus is demonstrable solely in the nervous system of animals immediately after death from tetanus. The same experiments were repeated from twenty-four hours to three days after death of animals inoculated with tetanus, and in a few instances positive results were obtained from extracts of kidneys, muscles, heart, etc.; but in these cases the tetanus bacillus was, with few exceptions, demonstrated at the site of inoculation. The author believes that

tetanic manifestations caused by extracts of these organs were attributable to the presence of the bacillus. The hemolytic power of organic extracts was also studied, 0.25-per-cent. solution of sodium carbonate being used instead of the 2-per-cent. solution, and sodium chloride, 0.85 per cent., being added. Hemolysis was absent in every instance.

OBSTETRICS AND GYNECOLOGY.

Urobilinuria in Pregnancy.—The changes which pregnancy brings about in the economy are gradually becoming better understood. G. MERLETTI (La Sem. Méd., Apr. 23, 1902) has noted his observations of pernicious anemia, progressive in type, among pregnant women, accompanied by a urobilinuria, intense in one patient whose child had died *in utero*. This led him to examine a number of other women during the last three months of pregnancy; he found that the spectroscope usually reveals a urobilinuria from three to four times the normal amount and that without the presence of any morbid symptom. Another observer, D. Ferrari, found a similar condition in ten pregnant women. Together with this physiological condition in pregnancy there is another very much more marked which seems to be connected with the death of the fetus. In addition to the case just mentioned in which it accompanied pernicious anemia, Merletti found a pathological urobilinuria in four women, as follows: In two during the fifth month; in one during the sixth, and in one during the seventh month. In all these women, as soon as the baby was dead, the urine contained such large quantities of urobilin that it could be detected not only with a spectroscope but by fluorescence, which consists in adding to the urine ammoniacal chloride of zinc. After delivery this urobilinuria disappeared very rapidly. Basing his opinion upon these few facts, this author considers that any very great increase in the amount of urobilin in the urine during pregnancy is apt to be accompanied by death of the fetus. Further observations he admits, however, are necessary in order to establish this theory beyond all chance of error.

Eclampsia during Twin Pregnancy.—The following interesting, instructive and peculiar case of eclampsia is reported by W. B. MASON (Lancet, May 10, 1902). The patient was twenty-six years old, menstruated at nineteen years of age, regularly, with pain, had never had any fits, had had scarlet fever as a child, but no hematuria; she was anemic and in June, 1899, had vomited blood. There had been no amenorrhea since marriage. On two occasions, October 30th and December 2, 1901, she had pain in the abdomen. Each attack appeared with tenderness and was relieved by hot fomentations. There was no discharge from the vulva and the temperature was not elevated. Labor commenced on February 19, 1902, was rather long, but quite normal up to the protrusion of the head of the first child. When the perineum was stretched to its utmost the patient's legs were noticed to stiffen and a regular eclamptic fit followed. First, there was a tonic stage, during which her head turned to the right; the eyes were wide open, and staring; her whole body then stiffened, producing opisthotonos or pleurosthotonos, according to her position in bed at the time. This stage lasted about three seconds and was followed by a clonic spasm of all the muscles of the body and snoring respiration. After this first fit she regained consciousness in about half an hour and asked whether it would soon be over. She did not know that there was a second child. During the birth of the second child exactly the same thing happened. Both children were small and were delivered without difficulty. As soon as the third stage was completed he began appropriate treatment for the eclampsia. One of the children died from inanition on the fourteenth day and the other one is apparently going to die also. The mother was allowed to get up on the twentieth day and is now in fair condition.

Fetal Malformations.—The many accidental arrests and perversions of development to which all animal and plant life is subject are matters of great interest, especially in the human being, because they contribute to the knowledge of fetal formation. The following specimen is described by M. POPESCUL (Ctlblt. f. Chir., 1902, No. 18) as illustrating one of the rarities encountered in midwifery, the possibility of which in obscure cases must not be overlooked. The child was one of twins developed from one ovum and its fellow was physically normal. This monstrosity was born second, after a delay of almost twenty-four hours. The head was arrested high up in the transverse position. It presented a soft, smooth, circumscribed tumor growing from the back of the neck in the middle line and covered with a very thin, rosy-red skin, which closely resembled mucous membrane, and was totally covered with hair. A highly-refined and distinct degree of fluctuation was present. At first sight the mass had the appearance of a simple cystic growth, but on closer examination it was easy to discover the outlines of the occipital foramen and of the opening between the ununited processes of the vertebræ. The tumor was therefore a spina bifida situated in the neck and traceable forward through the widespread longitudinal suture to the root of the nose. The fontanelles and all the other sutures were very wide open. As one of the curiosities of fetal dystocia this deserves note.

A Tamponade-holder Combined with Sims' Retractor.—The multiplication of instruments designed for special uses has not yet ceased and many appear and disappear from time to time solely because skill and ingenuity make them unnecessary. When they combine more than one purpose, however, the chances of their survival are somewhat increased. J. RUDOLPH (Ctlblt. f. Gyn., 1902, No. 18) presents the following device for holding gauze for tamponade of the vagina, while the instrument can be used as a Sims speculum. It consists practically of two Sims' vaginal retractors, the upper smaller and shorter than the lower and setting smoothly into the lower, the edges of which, except at the very tip, are raised to make a groove suitable for this purpose. The handle end of each is shaped into a half-cylinder of capacity sufficient to hold a large spool upon which the gauze packing is wound evenly and closely. The spool runs on a shaft which is suitably accommodated between the two halves of the instrument. When put together the instrument feeds the gauze out of its end in the space between the blades. It has a number of features in its favor, namely, ease of sterilization of both the instrument and the gauze, guarantee of permanency of the asepsis of the gauze, rapidity of its supply, possibility of operating with no disturbance, independence of unnecessary assistants, and availability for any kind of tamponade material. Its supply of gauze is necessarily limited, but this can be corrected by using a number of spools.

The Tuberose Fleshy Mole.—This is the most striking form of abortion, and is second in interest and in importance to the hydatid form alone, writes D. BERRY HART (Jour. of Obstet. & Gyn. Brit. Empire, May, 1902). Its external appearance is not only characteristic, but specimens are remarkably similar to one another in many respects. Thus, the period of gestation at which the condition occurs (second to third month), the size of the mass expelled, the characteristic elevations below the chorion, etc., are almost invariably the same in all the specimens, and suggest to one's mind that there must be some definite mechanical cause

bringing about such similarity. Symptoms of threatened abortion develop during the second or third month. The patient thinks she has escaped miscarrying, but there is no increase in the size of the uterus; she remains amenorrheic and expels a mole, five, six, eight, or as late as fifteen months later. The writer thinks that the following is the method of production of the mole: (1) There is an undue blocking of the seratinal sinuses in the large-celled layer, leading to (2) a slow engorgement of the intervillous circulation. This will bulge out the chorio-basal septa, and as these tack down the chorion at definite points, the amnion and chorion will bulge up between. This produces the tuberose swellings. (3) The embryo dies as the result of this interference with the circulation, and its death is "secondary." (4) The placenta becomes a thrombosed mass and is retained a certain time before expulsion. The primary link in the chain of events is the excessive clotting in the seratinal sinuses from a cause as yet unknown.

Vaporization of the Uterus.—While the merit of having introduced this therapeutic measure into gynecology is due to Sneguireff, credit should be given to Ludwig Pincus of Danzig for the energy with which he has advocated the method, says G. F. BLACKER (Jour. Obstet. and Gyn. Brit. Empire, May, 1902). The indications laid down by various writers for the employment of this procedure are to be found in the various chronic diseases of the endometrium and uterine hemorrhages of all varieties. It may also be employed as a palliative measure in certain advanced cases of carcinoma uteri. The author thinks that this mode of treatment is undoubtedly of value in certain cases; that while it may supplement the use of the curette, it can never replace this latter instrument; and that attempts to show that it is the best method of treating a large number of very different conditions cannot but fail to lead to the discredit of an operation which, within certain well-defined limits, should prove a measure of permanent value.

Ophthalmia Neonatorum.—In an extensive investigation of various lying-in institutions of Europe, E. T. COLLINS (Practitioner, Apr., 1902) found that the best results were obtained when a 2-per-cent. solution of silver nitrate was used immediately after birth, following the suggestion of Crédé. Only .65 per cent. were affected with the disease when this solution was used. Almost equally as good results were obtained from a 1-per-cent. solution of sublimate, but weaker solutions were attended by higher percentages of ophthalmia. Furthermore, irritant effects from this drug are so rare that they are hardly worth considering and substitutes for silver nitrate seem to be unnecessary. Recently protargol in 20-per-cent. solutions has been employed with good results, and it is claimed that it is unirritating. In the treatment of this affection it is said that the stage in which a case of infantile ophthalmia is seen should be its worst stage. From the time when applications of a 2-per-cent. solution of silver nitrate once every twenty-four hours to the inner surface of the everted lids are begun, the condition should commence to improve. Cold compresses are also useful.

The Obstetric Pulse and Temperature.—In a careful observation of the temperature and pulse during gestation and during pregnancy, CONSTANTIN DANIEL (Annales de Gyn. et d'Obstét., May, 1902) finds many points which are of value in diagnosis and prognosis. During gestation one may be forewarned of the approach of an infection and one can usually localize it. In labor they enable one to recognize any danger to the mother or to the fetus. The pulse and temperature are often influenced by purely physiological causes, such as the appearance of milk in the breasts, or disturbances of the same of genital origin. These are usually ephemeral, and in the absence of other symptoms are of no importance. In confinement it should be possible to show the progress of an infection and to localize it from the character of the pulse and temperature. Thus the curves of infections of the breast (abscess, lymphangitis), of genital infections (perineal tears, uterine involvement), and of general infections (phlebitis, septicemia) are quasi-characteristic. Often in one woman one will find several factors influencing the pulse and temperature and then one has to rely upon a more careful examination to make the diagnosis.

Nature of Puerperal Rheumatism.—In most textbooks of obstetrics the statement may be found that the puerperium disposes to rheumatism. G. SINGER (Wien. klin. Rundsch., Apr. 20, 1902) is of the opinion, however, that a specific puerperal rheumatism does not exist and that all cases must be considered either gonorrheal or septic in character. The frequency of latent gonorrhea and the ease with which the gonococcus can reach the circulation after childbirth, owing to tears of the cervix, rupture of pus-tubes, and similar accidents, makes the former origin probable, especially since the rheumatism is frequently monarticular and shows a tendency to ankylosis. In case of endocarditis of doubtful origin, the patient should always be questioned as to the presence of joint pains after delivery.

Vicarious Menstruation from the Retina.—An instance of this rare condition is reported by J. G. HUIZINGA (Jour. Am. Med. Assoc., May 31, 1902) in a girl of seventeen, with an excellent family and personal history. Her menses appeared at fourteen and were fairly regular, with only slight attendant symptoms. During one of her periods, while stooping, she became suddenly dizzy, and vision was dimmed. Examination of the eyes showed a hemorrhagic retinitis, with numerous blood-spots, and a few clots in the vitreous. Under treatment the condition subsided, but recurred with the next and the succeeding period and then did not appear again.

THERAPEUTIC HINTS.

Areas of Insensibility after Spinal Anesthesia.—That there is a certain law concerning the succession of parts rendered insensible by cocaine injected into the spinal canal has been discovered by F. NEUGEBAUER (Münch. med. Woch., May 6, 1902). He finds that the nerves are affected in their proper anatomical order from below upward, so that the region of the fourth sacral nerve, the perineum and the external genitals first become anesthetic; then the sacral and coccygeal areas, with the adjacent internal and posterior aspects of the thighs supplied by the third sacral; then the posterior surface of the thigh and leg, with the foot, innervated by the second sacral. A portion of the sole is, however, supplied by the first and this has been found to lose its sensitiveness later. Following the foregoing the lower two-thirds of the anterior and lateral thigh surfaces and the greater part of the anterior surface of the leg, supplied by the fourth lumbar and the first sacral; then the upper part of the thigh, the inguinal and hypogastric areas, innervated by the first, second and third lumbar, are affected. In the upper extremity, the results are probably the same.

Foreign Bodies in the Nose.—To remove foreign bodies from the nose, F. J. STEWARD (Clinical Journal, Nov. 6, 1901) stands behind the patient, passes a probe along the floor of the nose to get under the foreign body, and pries it upward and forward. It can go in only one direction and that is out of the anterior nares.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

COMMUNICATIONS in the form of Scientific Articles, Clinical Memoranda, Correspondence, or News Items of interest to the profession are invited from all parts of the world. Reprints to the number of 250 of original articles contributed exclusively to the MEDICAL NEWS will be furnished without charge if the request therefor accompanies the manuscript. When necessary to elucidate the text illustrations will be engraved from drawings or photographs furnished by the author. Manuscript should be typewritten.

SMITH ELY JELLIFFE, A.M., M.D., Ph.D., Editor,
No. 111 FIFTH AVENUE, NEW YORK.

Subscription Price, including postage in U. S. and Canada

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	8.00

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.). NEW YORK.

SATURDAY, JULY 5, 1902.

THE "BULL PIT."

WHEN the gladiator of ancient Rome entered the amphitheater to battle for his life and to afford to the public an interesting spectacle, he was wont to address his Cæsar in the well-known words, "morituri te salutamus." The modern mind looks upon this ancient custom as brutal and revolting, and even our Cæsars would cover their faces to shut out the sight of men battling against each other or wild animals.

The Department of Public Charities has had a long line of Cæsars of varying worth and ability. The present Cæsar, elected for purposes of reform, is striving to put down the ancient abuses and wrongs in his domains. The details of such a department are very numerous and tedious and many must of necessity escape the notice of such a high official; but we feel there is one neglect which would not be tolerated should it be brought to his notice.

The medical staff of the City Hospital is composed of twenty-four interne physicians who are supposed to be properly fed and housed and probably would be if the true condition of affairs were known. The main quarters, where the members of the staff sleep, are on the top floor of the central building of the hospital and consist of but five rooms. In four of these eight house physicians are quartered. In the remaining room, which is approximately twelve by fourteen feet, three seniors and one junior reside. The beds are of iron and at one time served as cots for ward patients. They are provided with straw mattresses and straw pillows. There is a single closet in the room which does duty for all four men. A broken-down washstand, a rickety table and a mirror, six by eight inches, complete the rest of the room's furnishing. The room is illy lighted and no one can sit in it as there is neither light nor available space for such a purpose.

These provisions, however, are truly luxurious compared with the quarters assigned to the junior members of the staff. On the ground floor of the hospital, off from the central building, between a dirty kitchen and a vermin-infested bathroom used for the newly admitted patients, is an apartment twenty-one by fourteen feet. The ceiling is about eleven feet high. Arranged in beautiful symmetry are two rows of cots, six on either side of the room. In one corner is a kitchen sink with a cold-water faucet where the matutinal ablutions are performed. There are no closets in which the men may hang their clothes or even as much as a row of pegs on the wall. Not to be daunted the juniors fold their trousers and place them beneath the two blankets which serve as mattresses on the cots. (The straw mattresses of the upper rooms are deemed too great luxuries for the junior physician who holds a position in the hospital's social scale somewhere below the ex-inebriated elevator-man.) The rest of the clothes are kept in steamer trunks under the cots. This is the "bull pit" and in it are quartered twelve men.

The City Hospital is not unique in its quarters for the junior house staff. Bellevue also has its "bull pit" for the junior physicians of its staff.

Is it to be wondered at, then, that we hear of members of these staffs falling victims to tuberculosis and other diseases, living as they do in such pest-holes? Can one expect them to do good work? These young men, in most instances, are accustomed to the majority of this world's good things. They are educated and come from refined surroundings and are full of enthusiasm and willingness for work, but after a short life under such conditions the enthusiasm wanes and they become dissatisfied and discontented and let their work slide. This is the young doctor who is so unmercifully criticized. Every-

one knows that the food supplied them is poor enough, but they would willingly put up with this inconvenience could they be but comfortablv housed.

IS THE PROPHECY TRUE?

THERE was something greater than a straw which pointed out one very evident trend of surgical evolution for the past year. Dr. W. G. Macdonald of Albany, rising to discuss the gynecological papers which had been read by members of the American Surgical Association at its recent meeting in that city, said, "Gentlemen, it is prophetic; the general surgeon is at last coming to his own; these papers show how very successfully he can invade the so-called specialty of gynecology. It is evident that the day is near at hand when the 'gynecologist' will rest—not with his fathers, but with some of his former patients!"

What was said partly in jest may be prophetic. It is at least significant that at this meeting of the most exclusive and representative organization of general surgeons, Andrew J. McCosh should read a paper on "Myomectomy vs. Hysterectomy;" John B. Deaver, on "Abdominal Hysterectomy;" Maurice H. Richardson, the Chairman of the organization for 1903, "On the Choice Between the Vaginal and Abdominal Routes in Reaching Pelvic Tumors," W. G Macdonald on "The Technic of Supravaginal Hysterectomy." These men have each done hundreds of gynecological operations and the spirited discussions of their papers showed that most of the members were eagerly embracing every opportunity to operate within the female pelvis. It is well known that because of too great competition one prominent gynecologist of New York City has recently renounced the unadulterated practice of his art, and after nearly twenty years has again taken up general medicine. The gynecologists have sewn good seed and are reaping a harvest; they perfected operations and technics on a very limited, but all-important system; that their usefulness is disappearing and that they, as a class, are declining seems possible.

FALSE PRETENSES AND FEMININE CHARMS.

A RECENT decision on appeal in an Iowa court seems to have a much wider significance than could well have been anticipated by the community at large. The defendant in a suit for breach of promise alleged, as a justification for his refusal to marry the plaintiff, the fact that he had been led primarily to enter into the engagement with her because of the magnificent head of brown hair she possessed. On learning (needless to say from another woman) that these attractive and ensnaring locks were not her own, except in so far as she had acquired the right to them by purchase, the defendant at once set out to discover the truth of this statement, and, having ascertained beyond all doubt that the capillary adornment was only an accessory to and not an essential of the beauty of his fiancée, requested to be released from his promise of marriage. The lady brought suit for breach of promise and the lower court upheld her contention that the gentleman had no proper justification for his action. The Appellate Court, however, has just decided that the plaintiff secured the affections and offer of marriage from the defendant by "false pretenses" and that the engagement cannot therefore be held to bind him legally to its fulfilment.

It would strike the physician that this legal tenet of "false pretenses" might well become the excuse for many broken engagements. Suppose the young man claims that he was attracted to the young lady in the case by her pretty teeth and then learns that they are false. Will this also be justification sufficient in the eyes of the law for breaking his plighted troth? After all false teeth are not uncommon. Someone said the other day as a joke—that is, however, no joke in reality—that false teeth were the teeth men got last and women too. We foresee heaps of broken engagements without the pale of the law that will be scattered along the shore of the proximate future if this Iowa decision is to have as wide application as might be pessimistically anticipated. Will a false smile (heaven save the mark) be a legal justification for broken premarital vows? How much or how little of false pretense will be necessary to ensure legal impunity? Must women forego those charming simulations that have ever tempted men to matrimony, though the subsequent course of married life has not always shown a true feminine desire to keep them up for the sake of harmony? And shall the false pretenses of the men, from padded shoulders to poetry and the retailing of their athletic prowess in days of yore, also be a matter for the justification of failure of the lady to fulfil her pledge?

It is with the anatomical questions involved, however, and with the possible decrease of the present low marriage-rate and consequently the birth-rate that we as physicians are concerned.

Will the flagrant use of false pretenses in anatomy serve perhaps even to vitiate the marriage contract? After all the troth and marriage contracts are not so far removed from one another either in the eyes of the law or of religion. Anyone who knows what female anatomy really is and then studies a series of fashion plates from year to year even for a single decade will realize how much of "putting on" there is in the eternal womanly as we see her at any given moment. Someone said not long ago that very few young women had any visible reasons for wearing low-neck dresses. Shall the use of various supplements that are meant to enable their wearers to conform to existing fashions also be considered false pretenses? There is a German expression, we believe, according to which if the wife leaves more than one-third of herself on the chair the husband has a right to at least half a divorce. Then shall the suppression of superabundant charms also be considered false pretenses? Really, the social fabric as at present constituted seems threatened by this far-reaching Western decision.

Long ago Sir Thomas More, the famous chancellor of England under Henry VIII, told how in Utopia a grave matron presents the bride naked, whether she is a virgin or a widow, to the bridegroom and after that some grave man presents the bridegroom naked to the bride. The men of Utopia wondered at the folly of the men of all other nations who, if they are but to buy a horse, are cautious to see every part of him and take off his saddle and all his other tackle and yet who in the choice of a wife, on which depends the happiness or unhappiness of a life-time, should venture upon trust and see only about a hand's breath of the face. "It is certain there may be some deformity covered by the clothes as may totally alienate a man from his wife when it is too late to part from her." Is it toward some such precaution as this that the Iowa legal decision points?

There have been several attempts at the institution of medical examinations before marriage on the part of Western legislators. These have failed. Is it possible that this tenet of "false pretenses" is to be the entering wedge by which the judicial authority is to accomplish what the legislature has failed to do? The thought is so serious that it causes us to pause.

Insanity in Berlin.—The increase of cases of insanity in Berlin has necessitated the projection of two additional asylums.

ECHOES AND NEWS.

NEW YORK.

A New Journal—"American Gynecology."—An unusually attractive prospectus is presented for the opening bow of a new claimant for editorial recognition. "American Gynecology" is to be edited by an editorial board of well-known physicians and gives promise of filling a place in the fabric of medical journalism.

Dr. Stubbert Resigns at Loomis Sanatorium.—Dr. J. Edward Stubbert, who has been physician-in-charge of the Loomis Sanitarium since its opening in 1896, has tendered his resignation, but will continue as a member of the Medical Board, which consists of ten other New York physicians. He will devote all his time to his practice in New York City.

To Treat the Acutely Insane in New York.—The State Commission in Lunacy decided June 24th to have constructed in New York City, one in the Borough of Manhattan and the other in the Borough of Brooklyn, hospitals for persons threatened with insanity. Here patients will be treated immediately, and, if possible, insane symptoms will be eradicated. These patients will not be put among inmates of the State Hospitals for the Insane until their insanity is clearly established. Dr. Frederick Peterson, President of the State Commission in Lunacy, sailed for Europe June 26th, and while there will inspect the various detention hospitals for the insane similar in type to those that it is proposed to establish in New York. It is said that the commission at its recent meeting appointed Dr. Morris C. Ashley, acting superintendent of the Middletown State Hospital, to fill the vacancy caused by the death of Dr. Talcott.

Prophylaxis of Venereal Disease.—The following resolution, introduced by Dr. Ludwig Weiss of New York City and seconded by Dr. D. L. Bulkley of the same place, was unanimously adopted by the Section on Cutaneous Medicine and Surgery of the American Medical Association at its meeting June 12, 1902, and a committee consisting of Drs. L. Weiss and D. L. Bulkley of New York and Frank H. Montgomery of Chicago was appointed to present the same to the Section on Hygiene and Sanitary Science of the American Medical Association, for coöperation. *Whereas:* There is a burning necessity to check the spread of venereal diseases, and, assuming that the States cannot with impunity ignore the condition, it lies in the province of the medical profession to discuss and recommend to the respective State Legislatures and municipalities means —not regulamentative, but social, economic, educative and sanitary in their character, to diminish the danger from venereal diseases. *Resolved:* That the Section on Cutaneous Medicine and Surgery of the American Medical Association invite the Section on Hygiene and Sanitary Science to coöperate with the Section on Cutaneous Medicine and Surgery in bringing about a propaganda in the different States, looking toward a proper recognition of the dangers from venereal diseases, and to arrange for a national meeting under the auspices of the American Medical Association for the prophylaxis of venereal diseases, similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year at Brussels under the authority of the Belgian Government at Brussels. The House of Delegates of the American Medical Association at its meeting June 13, 1902, acted favorably upon this resolution, and appointed a committee of six to study the matter and to report to the Association at its next year's meeting. These are the members of the

Committee appointed by the Chair: Drs. Henry D. Holton, Brattleboro, Vt.; Geo. M. Kober, Washington, D.C.; W. H. Sanders, Alabama, from the Section on Hygiene and Sanitary Science, and Drs. Ludwig Weiss, New York; Duncan L. Bulkley, New York, and Frank H. Montgomery, Chicago, from the Section on Cutaneous Medicine and Surgery.

Manhattan Dermatological Society.—A regular meeting was held June 6, 1902, Dr. W. S. Gottheil, presiding.

Dr. L. Weiss showed an infant, fourteen months old, with cretinism; there was the typical idiotic expression, large flabby tongue, rounded belly and arched legs; rectal temperature never above 96.6° F.; cerebral functions in abeyance; no apparent changes in the thyroid gland; the case was regarded as typical; Dr. Weiss believes in the efficacy of thyroid medication, but would observe caution in so young a subject. Dr. Kinch reported good results from the use of 1½ gr. thyroid daily in an infant eleven months old. Dr. Cocks was treating four cases and in one no result. Dr. Geyser had a case under observation for eight months; general condition good, but the tongue remains large, interfering with nutrition.

Dr. Sobel said a Mongolian idiot presented the appearance of a cretin; in the former there was no subnormal temperature; rickets was often mistaken for cretinism, but epiphyseal changes are a diagnostic sign. Thyroid extract should be given early and continued for a long time; a rise of temperature to 100 or 101° F. was the signal for intermission in treatment. Dr. Abrahams said iron in combination gives better results; it combats the anemia. Dr. Oberndorfer spoke of the analogous condition as seen in the adult, *viz.*, myxedema.

Dr. J. Sobel presented his case of sclerema neonatorum, to show the marked improved condition after daily rubbings with equal parts of ungt. hydrargyri and ungt. ac. boraci, ½ gram each; he believes the child will ultimately recover.

Dr. Kinch shows a boy of four years, with a dark pigmented spot on forehead, origin unknown; it was perfectly flat and well defined. It was believed to be of internal origin, though Dr. Pisco thinks it may be a melanoma.

Dr. Gottheil shows a child with an extensive capillary nevus covering the left half of face; the trunk, chest and back also show marked capillary dilatation, best seen when the child cries, the parts involved becoming intensely hyperemic; in addition there was an atrophy of the right gluteal muscles. The question of maternal impressions was raised by Dr. Wainwright. The atrophy was not accounted for.

Dr. R. Abrahams presented a marked case of lupus erythematosus, occupying the nose and adjacent cheeks. It was treated for four months with the X-ray without benefit, likewise with injections of 95-per-cent. alcohol; better results not apparent from the use of a 20-per-cent. plaster of mercury-salicyl. Dr. L. Weiss spoke of the use of Koch's lymph and Hebra's freezing mixture. Dr. Pisco mentioned glacial acetic acid. Dr. Bleiman spoke favorably of creosote-salicyl plaster. Dr. Geyser has faith in the X-ray and Dr. Gottheil prefers the Fünsen light.

Dr. I. P. Oberndorfer presented a typical case of acne varioloformis confined to scalp and forehead.

Dr. R. Abrahams also presented a case which he regards as lupus vulgaris; an ulcerated, deeply excavated patch seen on left wing of nose surrounded by a row of hard papules and an areola of redness with scaling; the patient is a woman, fifty years of age; began six weeks ago. Dr. Oberndorfer inclines to syphilis, owing to short period; in some respects looks like epithelioma. The latter opinion was likewise shared by Drs. Kinch and Gottheil. Dr. Pisco calls it a tertiary lesion. Drs. Sobel and Bleiman consider it a gumma. Dr. Weiss regards it as specific, owing to the appearance of the throat, which shows adhesions of uvula to pharyngeal wall.

Dr. J. Sobel presented a man with well-marked mucous patches on the lower lip; his fiancée (also present) shows a hard indurated papule on the lower lip, which was regarded by all present as a primary sore.

Dr. Geyser showed two cases of epithelioma; one recurrent involving the lower lip and the other involving the nape of the neck; the latter is of twenty years' duration; he is treating both cases with the X-ray and reports favorable results. Dr. Geyser also showed radiographs of a bilateral bone tuberculosis in a patient with lupus of the face.

Dr. E. L. Cocks presented a woman of fifty years, showing circular scaly patches on the forehead, chin and over both eyebrows. Twenty years ago a general eruption appeared on the body which was then diagnosed as "infection"; the present eruption is of three months' standing. Dr. Cocks does not believe it to have any connection with the early eruption. Dr. Oberndorfer regards the present eruption as a tuberculous syphilide. Dr. Pisco said he had seen a case of granuloma fungoides which, in appearance, resembled the present case. Dr. Kinch and Geyser think it specific.

Dr. R. Abrahams showed a boy with a herpetic eruption over both sides of the face, nose, both ears and along the nape of neck; this eruption was preceded by temperature. He regards the case as a double herpes zoster. Dr. Pisko said this condition was exceedingly rare and called the case one of eczema vesic. bullosum. Dr. Weiss agrees with Dr. Abrahams and showed plates to illustrate his contention. Drs. Sobel, Gottheil, and Oberndorfer call it herpes febralis. Dr. Geyser suggested dermatitis venenata.

PHILADELPHIA.

Verdict Against Boracic-acid Preserved Food.—The Dairy and Food Commission of Pennsylvania has for some time been endeavoring to obtain a Court decision on the use of boracic acid as a food preservative. Until lately, dealers paid the fine without appealing to Court. Recently an Altoona grocer, convicted of selling oysters preserved by the method in question, appealed, which gave opportunity for expert testimony as to the injurious effects of the boracic acid and the jury convicted the grocer. The case is considered an important one as, if the decision holds, it will keep out of the State the boracic-acid preserved meats of the meat trust.

Resignation of Dr. Andrews as Police Surgeon.—Dr. T. H. Andrews, chief surgeon of the Bureaus of Police and Fire, has tendered his resignation, to take effect July 1st. Dr. Andrews has been police surgeon for about fourteen years, he being the second incumbent of that office. He has always been strict in his examination of applicants for the police and fire departments and has thus raised the physical standard in both. In this connection it is related that one promising applicant who was just a shade under the required height was told by Dr. Andrews to remain in bed continuously for three days and then report again. He did so and reached the required measurement. Two of the improvements effected by Dr. Andrews have been of great value to the city. One is the non-detention in police stations of persons presumed to be insane or prisoners or patients supposed to be intoxicated, but whose real condition is doubtful. They are now at once forwarded to the "detention ward" in the Philadelphia Hospital. The other improvement referred to is the formation of

the Medical Emergency Corps, composed of the district police surgeons. The services of this organization are conspicuous during the presence of large crowds in the city.

Sweeping Vaccination Order in Pittsburg.—The Board of Health of Pittsburg has ordered every citizen who cannot show evidence of recent successful vaccination to be vaccinated before July 16th. After that date a house-to-house canvass will be made and delinquents will be vaccinated, forcibly if necessary. It is said that the physicians of the city have refused to assist in that work and students from the Western Pennsylvania Medical College will aid the Bureau in its canvass.

To Save Paupers from Dissection.—The citizens of Williamsport are reported as having developed antagonism against the State law requiring that the bodies of paupers shall be turned over to the State Anatomical Board for dissection. The Poor Committee of City Councils has taken steps to test the validity of the law. A resolution instructing the Poor Board to bury the pauper dead will be passed by Councils and if the Anatomical Board objects, the city will bear the expense of a test suit.

Danger in Manicuring.—The recent death of a prominent society man of Baltimore from infection said to have resulted from manicuring operations performed in Philadelphia has caused wide discussion among the manicurists in this city. They believe that if the public knew the danger, better conditions would be enforced and the business benefited, hence there was no hesitancy in discussing the case. Some claim that every stage in manicuring and chiropody is performed under antiseptic precautions. It is also claimed that the vanity of patients in demanding a "half moon" on the nail, results in forcing back or cutting the cuticle, which opens the way for infection. First-class manicurists usually refuse to do this, preferring, if necessary, to lose a patron.

Pennsylvania Hospital.—The 151st annual report of the Pennsylvania Hospital embodies the first year, just closed, since the completion of the enlargement and reorganization begun nearly ten years ago. During the year there were treated 4,705 patients, 360 more than in any previous year and 2,535 more than in 1891-92, a gain of 116 per cent. in 10 years. Of the 4,705 only 141 were pay patients, an enviable record for a hospital which receives no public appropriations. The cost of maintenance during the year was $126,000.

Society of Nurses Chartered.—The Society of Nurses of the Hospital of the Protestant Episcopal Church in Philadelphia has been granted a charter. The corporation was formed "for the maintenance of a high standard in professional work among pupil and graduate nurses of the Episcopal Hospital, mutual friendship and social intercourse, and the care of members when ill, from dues, bequests and voluntary contributions."

Dr. Augney Appointed Police Surgeon.—Dr. William M. Augney has been appointed chief surgeon of the Bureau of Police to succeed Dr. Thomas H. Andrews. Dr. Augney has been for the past eight years a medical inspector in the Bureau of Health.

Camden Free from Smallpox.—The city of Camden is now free from smallpox for the first time since the late epidemic began. The last case was discharged from the Municipal Hospital on June 27th.

Donation to Altoona Hospital.—It is reported that Charles M. Schwab, President of the United States Steel Corporation, has made a donation of $35,000 to the Altoona Hospital.

Negro Dies at Age of 116 Years.—William Batton, colored, died June 25th at the age of 116 years. Seven of his twenty-two children survive him.

Wills Eye Hospital.—A statement of the financial condition of this Hospital has been made by Edward S. Buckley, Chairman of the Committee. State aid has been insufficient or entirely lacking. An infectious ward begun, has been left unfinished from lack of funds. An erroneous and unfortunate impression prevails among many people that, as the Wills Hospital is managed by the Board of City Trusts who administer the affairs of the Girard estate, any shortage in the hospital income may be supplemented from the large resources of that estate. On the contrary not one dollar of the Girard income is available for the support of the Hospital. A citizen of Philadelphia has offered to give $15,000 to a fund for the endowment of the Hospital if the sum of $100,000 be subscribed by January 1, 1903.

Suit Against Asylum.—An outcome of the change of resident physicians at the Norristown Insane Asylum during the past year is a suit against the Asylum for $11,454.66. This has been instituted by Dr. Susan J. Taber on the ground of breach of contract, a five-year term being ended without reasonable cause.

Officers of New Jersey Medical Society.—The Medical Society of New Jersey at its annual June meeting elected the following officers: President, Dr. E. L. B. Godfrey of Camden; Vice-Presidents, Drs. Henry Mitchell, A. W. Taylor, W. H. Johnson; Corresponding Secretary, Dr. E. W. Hedges, Plainfield; Recording Secretary, Dr. W. J. Chandler, South Orange; Treasurer, Dr. Archibald Mercer, Newark.

Effect of High Speed on Engineers' Nerves.—The constantly-increasing speed of trains makes pertinent the discussion by railroad men of the statement of the Glasgow physician that most railroad accidents of the ordinary sort are due to failure of the railway men's nerves, with the implication that the faster the train the earlier will be the nervous breakdown. A Reading official, who was himself an engineer on fast trains for years, states that he does not know of a single accident due to nervous exhaustion. Men who run the fast trains between Philadelphia and New York, the Atlantic City flyers, etc., would laugh if told that they were losing their nerve. Another official said: "If an engineer gets his proper rest, I do not see that anything is to interfere with increasing the speed of our trains to 100 miles an hour or more if we can get engines to do it. Our New York crews make one round trip a day, meaning a little over four hours' actual riding in twenty-four. Besides this, every engineer has one week-day off every week, and one Sunday off in three." Pennsylvania officials are equally emphatic regarding the effect of high speeds, and proper rest is all that is considered necessary to avoid nervous breakdown. All unite in saying that the most potent cause of nervousness, even in the best engineers, is the running of special trains carrying a dignitary or man of high public rank. When there is the greatest anxiety to avoid an accident the greatest danger is imminent because of the strain on all the people in charge.

Public School in Asylum.—A public school is to be started in the Philadelphia Orphanage on Lansdowne Avenue. Two teachers will be employed and besides the inmates, children in the immediate vicinity will be instructed.

Petty's Island again Prominent.—A bill authorizing the purchase of 150 acres of Petty's Island as a site for the Almshouse is now before Councils. The price is to be $480,000.

Diagnosis and Treatment of Flatfoot.—Dr. James K. Young spoke on this topic at the meeting of the Philadelphia County Medical Society, June 25th. The diagnosis is generally easily made by inspection, but tracings are needed for more exact work. For this

purpose Dr. Young formerly used vaselin, but now prefers the use of tannic acid and iron. The inclined mirror is also of great value in determining the exact condition present and in differential diagnosis between pronation, flattening of the anterior arch and rheumatism. The various methods of treatment for different degrees of deformity were briefly mentioned and models and splints exhibited.

Free Maternity Service Investigated.—Since last October about 20,000 boxes asking contributions to the Free Maternity Hospital service have been scattered throughout this city and State. An application for a charter has caused an investigation and an end of the Society. The founders admit an income of $4,800 up to April 28, 1902, and an outlay of $720 for maternity cases treated by them. Three incorporators gave wrong addresses.

Pes Equino Varus.—Dr. G. G. Davis, in speaking of this condition, emphasized particularly the fact that cases were nearly always seen first by the general practitioner and the final result is largely due to his judgment. The majority of the cases can be treated successfully by the general practitioner if he is willing to devote the time they require and in certain cases call in a specialist occasionally to see if proper progress is being made. A careful study of the degree of deformity should be made and the line of treatment determined. If in good health the child cannot be too young for treatment. There are three stages in the treatment of moderately severe cases: (1) Manual correction. This should be done twice a day and can be looked after by the properly instructed mother or nurse. (2) Splints. These should be applied to correct the deformity, the bandage being tightened from within outward to aid in correction. Plaster of Paris may be of great advantage in some cases. Splints may be used for several months and should be far enough advanced that the child may wear supports by the time it begins to walk. (3) Shoes and brace made by an instrument maker. Division of tendons or fascia may be used as an adjunct. In cases requiring severe operation, Davis much prefers the taking out of a wedge-shaped piece of bone extending across the tarsus to astragalectomy and like operations. Eternal vigilance is the price of good results in these cases and the general practitioner should pay more attention to their treatment.

Talipes Equino Varus.—Dr. J. P. Mann exhibited a patient in whom this deformity had been corrected without disturbing the bones. Two subcutaneous operations and four or five stretchings under ether were the means employed. The Phelps operation and the various bone methods are condemned as dangerous and unnecessary. Forcible correction is efficacious, if combined with tenotomy or incision of the soft parts in severe cases and has not the disadvantages of the other methods. It should be followed by the plaster bandage which is changed every week. Later a retaining shoe and brace are substituted. These must be worn a varying length of time as determined by each case.

Obituary.—Dr. Robert A. Work, aged thirty-four years, a widely-known eye, nose, and throat specialist of Bethlehem, Pa., died there June 17th, after an operation for appendicitis. Before locating in Bethlehem, four years ago, Dr. Work was surgeon to the Wills Eye Hospital in this city.

CHICAGO.

Appointment of Dr. Carriel.—Dr. Harry B. Carriel, of Jacksonville, has been appointed superintendent of the Central Illinois Hospital for the Insane, to succeed Dr. Joseph Robbins, whose resignation will take place July 1st. Dr. Carriel was the unanimous choice of the Board of Trustees. Dr. Carriel is a son of Dr. H. F. Carriel, who was superintendent of the Hospital from 1870 to 1882. He was graduated from the Chicago Medical College and later studied in Germany. He was appointed first assistant physician at the Central Hospital under Governor Tanner, which position he held until about six months ago, when he went to Bartonville, Ill., to become acting superintendent of the Hospital for the Incurable Insane after the death of Dr. F. C. Winslow.

Opinion as to Practice of Medicine: Sale of Device.—The Supreme Court of Illinois holds in the case of People, to Use of State Board of Health, *vs.* Lehr that a question was manifestly improper in which a physician was asked to state whether or not, in his opinion, a person prescribing a medical device, claiming that it would cure rheumatism, etc., would be regarded as practising medicine, as the witness understood the term. The Court says that the statute defines the practising of medicine, and that it was for the jury, and not for a witness, even though he might be called an "expert," to say whether certain conduct amounted to the practice of medicine. In other words, this question sought to have the witness decide the very ultimate question which the jury had been sworn to try, and, consequently, an objection to it was properly sustained. Then it was asked that the jury be instructed that if it found from the evidence that the party charged with illegally practising medicine prescribed a certain instrument or device to persons suffering from physical ailments, and recommended it as a means of cure or relief for such ailments, and that he did so without first obtaining a license therefor from the State Board of Health, then the jury should find him guilty and assess his fine as provided by statute. But this instruction, in view of the facts of the case, the Court holds, did not correctly state the law. It says that the party did not "treat, or profess to treat, operate on or prescribe for any physical ailment, or any physical injury to or deformity of another." He simply offered and recommended the instrument or device in question for sale. He was practising medicine, within the meaning of the statute, no more than is the druggist or pharmacist who sells and recommends surgical instruments, atomizers, and innumerable other appliances used by the afflicted. If this instruction should be held to announce the correct rule of law, then any neighbor or friend who might prescribe or recommend the use of a particular instrument or device would be guilty of violation of the statute, which is certainly not in accord with the spirit of the statute or the intention of the legislature. The evidence not showing that he was an itinerant vendor of the device, he could not properly be convicted of violating Section 8 of the statute, which provides "that any itinerant vendor of any drug, nostrum, ointment or appliance of any kind intended for the treatment of diseases or injury, who shall, by writing or printing, or any method, profess to cure or treat disease or deformity by any drug, nostrum or application, shall pay a license," etc., admitting that the device in question was an appliance, within the meaning of this statute. This, like all other penal statutes, must be strictly construed. The statute is a wise and humane one, and, within its reasonable construction, to be rigidly enforced; but any attempt to make it cover cases like this would be an abuse, rather than an enforcement of it.

Primary Tuberculosis of the Parotid Gland, with Report of a Case.—After a careful perusal of the literature, the author claims that primary tuberculosis of the parotid is either a rare disease or has remained unrecognized by clinicians. From a careful analysis of only eight cases reported up to date by French, German and Italian surgeons, he divided the disease, pathologi-

cally and clinically, into two forms, a circumscribed and a diffuse, the latter being far more frequent. The affection is a purely local one, and surgical interference results in a permanent cure. Total extirpation of the gland is not essential to such results. In all recorded cases, including the author's case, the diagnosis was made after the operation, microscopically. In none of the cases was the discharge from the gland subjected to an examination. Such examination should not be overlooked. He further claims to be the first American surgeon to add one more case of this seemingly rare disease to the literature.

Nodding Spasms with Nystagmus.—Dr. Isaac A. Abt presented a case before a recent meeting of the Chicago Medical Society of nodding spasm or gyrospasm, so-called by Peterson, also called rotatory spasm, which has excited a good deal of interest on account of the rarity of its appearance and also on account of the obscurity of the origin of the spasm. This child was eight months old, and was the fourth child. The parents were both well. The other children had always been previously healthy, and the health of this child had been good. About two months before the mother noticed that the little fellow was almost constantly shaking the head from side to side. She also noticed that the child had oscillatory movements of both eyes, nystagmus. This condition continued up to the time the case was presented. The child was breast-fed, and had been in good health. The spasm ceased when the child was asleep. Nystagmus, which at first was confined to both eyes, occurred at the time presented for the most part in the left eye, and was horizontal in character. The rotation stopped at times, when the child's attention was attracted, or when the eyes were closed. In addition to what the essayist had said, examination showed that the child was moderately rachitic. It had a well-defined rosary, and it had very slight enlargement of the epiphyses, which could be readily seen. Dr. Abt had seen a number of these cases, and at one time had made them the subject of a special report; since that time he had collected three additional cases, making five in all. This nodding spasm usually occurred in otherwise healthy, vivacious children, who were slightly rachitic; not in cases in which there was a high degree of rickets. The head rotation might be horizontal or nodding in character. In all of the cases, at one time or another, nystagmus was present, although at times it seemed to be absent late in the disease. The course of the disease, so far as he knew, and so far as published reports were concerned, was always favorable, in that it usually ended in spontaneous cure in from three to four weeks, as reported by Henoch, to twenty-one months, as reported by Randnitz. The nature of the disease was extremely obscure. This much is known: It is nearly always associated with rickets and seemed to depend upon some nutritional disorder. B. Sachs believes that it is due to an irritation or lesion of the basal ganglia, while others believe it is caused by nystagmus which result from poor hygienic surroundings and darkened living-rooms. The nystagmus, it was believed, secondarily resulted in the head rotation, due to the endeavor of the child to fix its head. Other hypotheses have been advanced.

CANADA.

Ontario Medical Council.—The Ontario Medical Council met in annual session in Toronto during the past week. All of the members were present with the exception of two who were absent through illness., Dr. W. H. J. Emory of Toronto was elected president and Dr. J. A. Robertson of Stratford vice-president. Dr. R. A. Pyne was re-elected registrar. A brief debate took place over the clause which was inserted in the Ontario Medical Act at the last session of the Ontario Legislature which provided that all registered practitioners shall be entitled to vote upon certain questions affecting the Council's constitution; and it was finally decided that this meant all those in good standing, meaning those who had paid their annual two-dollar assessments. As there are about 175 in the Province who did not do this they will not be entitled to vote upon the questions which will be submitted to the profession throughout the Province in the fall. During the progress of the meeting a cablegram was despatched to King Edward's secretary conveying a message of sympathy with the Royal patient. A reply was received to this stating that His Majesty was progressing favorably. By a vote of 16 to 11 it was decided to raise the standard of medical matriculation in the Province. The Council unanimously approved the Bill of Dr. Roddick, M.P., which had passed through the Dominion House of Parliament successfully, and will take steps to have the ratification of the measure as provided in the Act secured at the next meeting of the Provincial Legislature. The Property Committee recommended that the present building in Toronto be sold and that a site for a smaller building be purchased. Sir Frederick Borden, M.D., M.P., was registered as a licensed practitioner of Toronto, Dr. Borden having been previously a practitioner in the Province of Nova Scotia. A committee was appointed consisting of three well-known and prominent practitioners of Toronto, viz., Drs. W. B. Geikie, Macdonald and Britton, to further the proposal to establish in Toronto an anatomical museum.

An Important Malpractice Decision in Ontario.—Justice Falconbridge of Toronto has recently delivered judgment in a malpractice suit which has caused no little interest among the profession in the Province of Ontario. The case was tried recently at the Toronto non-jury sittings and was brought by a woman against two brothers of an Eastern Ontario town who were practising in partnership. The case arose through the dislocation of the astragalus, treatment of which had been interfered with by the patient. The Statute of Limitation in Ontario required that suit be instituted within one year; and the judgment upon this point is particularly interesting to Ontario physicians. The learned judge held that "consulting another surgeon (which the plaintiff had done) in the absence of, and without notice to or leave of the surgeon in charge, is an indication of want of confidence in the latter, and would of course be treated by him, when he came to know of it, as tantamount to a dismissal of him by the patient." The burden of evidence clearly showed that the patient had been properly treated by the defendants; and the case was dismissed against the defendants on all the counts. Canadian practitioners have now a protection against all of these so-called malpractice suits of which all should avail themselves annually, viz., the organization perfected at the last meeting of the Canadian Medical Association at Winnipeg, when the Canadian Medical Protective Association was organized.

A Canadian Physician Knighted.—Dr. Frederick W. Borden, M.P., Minister of Militia for Canada, has been created a Knight Commander of the Order of St. Michael and St. George.

Dr. Osler a D.C.L.—Dr. William Osler was honored at the June Convocation of Trinity University, Toronto, with the degree of Doctor of Civil Law. Replying to the honor Dr. Osler recalled the time when he was an undergraduate of the University.

GENERAL.

Home for Destitute Physicians.—A recently deceased physician of Moscow, Russia, has willed the sum of 800,000 rubles to that municipality for the founding

of a home for destitute members of the medical profession.

Congress Medical Electrology.—The Second International Congress for Medical Electrology and Radiology will be convened at Berne, Switzerland, September 1-6, 1902. The principle themes for discussion will be the present status of electrodiagnosis, surgical electrolysis, radioscopy of the internal organs, X-ray accidents, and the danger of high tension industrial currents.

Holiday Course in Paris.—A holiday course will be held in the School of Medicine of Paris in the general pathology laboratory by Dr. Desgrez, supernumerary professor, Dr. Henri Claude, hospital's physician, and Dr. Balthazard, preparer in the laboratory, under the direction of the Professor Bouchard. The subject studied in the course will be urinary semeiology, clinical analysis and cryoscopy, examination of the blood and of other pathological secretions and excretions. The course is of twenty lessons and will last from July 20th to August 20th.

Negro Insanity Increasing.—Physicians in the State of South Carolina are greatly concerned over what they believe to be the alarming increase of insanity among negroes. According to estimates made by Dr. Babcock, superintendent of the State Lunatic Asylum, this condition now is worse than ever before. Many reasons are assigned, but it is the universal opinion that the common use of drugs, opium and cocaine being mostly used, and bad whiskey is in a large measure responsible. Ten years ago the suicide of a negro was such a rare occurrence that it attracted universal attention. Nowadays such an occurrence is unnoticed. There are probably more insane negroes in the State institution at Columbia than at any other time in its history. They are sent in from all sections of South Carolina, the majority going from towns and cities. In Charleston crazy negroes are picked up almost every day, and while many of them are released after a brief term in the hospital, a considerable number develop such violent symptoms that it is found necessary to ship them to Columbia. It is seldom that the insane negroes are cured, and many of them die after violent suffering. The State authorities give the colored people the most humane treatment, yet it does not seem possible wholly to restore their minds.

Army Surgeons Wanted.—Out of 129 candidates for appointment as assistant surgeons in the army, only eighteen have passed the examinations recently held. The Surgeon General of the Army is greatly disappointed at the showing of the doctors, and almost despairs of filling the vacancies now existing by the autumn, when the services of a number of young surgeons should be available to relieve those whose terms of duty have expired in the Philippines. An army examining board has been in session in Washington since last April passing upon the qualifications of all young doctors who have been authorized to appear, with the result that forty-eight vacancies still remain unfilled, with but few applicants on file to be passed upon. The present situation is most embarrassing to the War Department and is unprecedented in the history of the corps. Usually there is not the slightest difficulty in securing excellent material from civil life for the Medical Corps. The Medical Corps of the Army, in fact, has been considered one of the most desirable branches of the service for men just entering from civil life, on account of the rank and pay the new appointee receives. Next October the Army Board will hold another examination, and meanwhile an effort will be made to secure the attendance of a large number of candidates well qualified for commissions. The following are the doctors accepted, and who will be appointed in the order given: William H. Moncrief, Atlanta; Reynold M. Kirby-Smith, Sewanee, Tenn.; George L. Collins, Boston; Nelson Gapen, Washington, D. C.; William T. Davis, Versailles, Ky.; Charles F. Morse, Montpelier, Vt.; Samuel E. Lambert, Mobile, Ala.; Theodore Lamson, Newton, Mass.; Hayward S. Hansell, Atlanta, Ga.; Junius C. Gregory, New Kent County, Va.; Clarence H. Connor, Clinton, La.; J. W. Grissinger, York, Penn.; Will L. Pyles, Washington, D. C.; Thomas Devereaux, Minneapolis, Minn.; William H. Smart, Washington, D. C.; Robert H. Pierson, Syracuse, N. Y.; Cary A. Snoddy, Nashville, Tenn.; Harry S. Purnell, Berlin, Md.

Medical Society Combination in Boston.—The Boston Society for Medical Improvement and the Suffolk Medical Society are to try a plan for one year of combining their meetings during the coming winter, looking forward to the establishment of an Academy of Medicine.

A Doctorless Community.—We are advised by a correspondent that the town of Avon Park, De Soto County, Florida, is not honored by the presence of a physician. Here is an opportunity, especially for a doctor with horticultural as well as medical proclivities.

Vital Statistics of Boer War.—The London medical journals have been studying the vital statistics of the South African war, which are now practically complete. According to the calculations of the "Hospital," 5,776 officers and men were killed in action, and 2,019 died of the wounds which they received. The deaths from disease amounted to 13,272, and it is said that these figures, large as they are, compare favorably with those of preceding wars. One noticeable fact is the very high proportion of officers killed and wounded, and another the high death-rate, from disease, among privates. In action, one officer was killed to every 10.15 men, and one officer was wounded to every 11.34 men. But of those who died from disease, only one in every 38.5 men was an officer. This is partly accounted for, doubtless, by the recklessness with which the "Tommies" drank polluted water. The number of invalids sent home during the war was about 70,000, and of these more than 6,000 died or left the service. The vast majority, of course, were restored to health. To prove that the war, after all, was not a big one, the "Hospital" quotes the figures of the battle of Gravelotte, in which the victorious Germans had 328 officers and 4,900 men killed and nearly 15,000 wounded.

Obituary.—Dr. Ernest Potter Jenks of the Vanderbilt Clinic, died on Wednesday, at 100 West 118th Street, of Bright's disease. He was a graduate of Brown University and of the College of Physicians and Surgeons. He leaves a widow.

Dr. William N. Fisher, a well-known physician, died at the Columbia University Hospital in Washington last week, as the result of a fall down the elevator shaft of that institution on Wednesday night. Dr. Fisher had called to see a patient and on leaving walked into the open door of the elevator shaft. His skull was fractured and he did not regain consciousness. Dr. Fisher was born in Richmond in 1873 and moved to Washington in 1876.

SPECIAL ARTICLE.

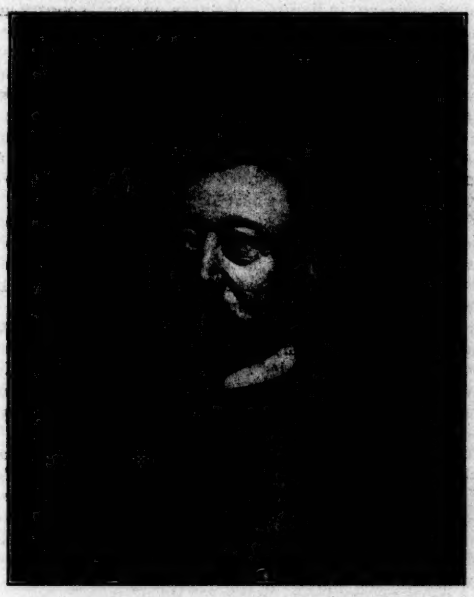
THE NEW SURGEON-GENERAL.

WILLIAM HENRY FORWOOD, M.D., LL.D. (Georgetown).

THE new Surgeon-General was born in Brandywine Hundred, Delaware State, September 7, 1838. He attended a private select school from childhood to his fourteenth year, the public schools in Chester, Pa., and then took a two years' course, including Latin and

Greek, as resident student at the Chester Academy, Chester, Pa., graduating in 1857. He entered the Medical Department, of the University of Pennsylvania, was graduated March, 1861, and was appointed assistant surgeon in the Medical Corps of the regular Army August 5, 1861. From this time he saw active service in the field, serving under many commanders and being executive officer and surgeon with many divisions in the Civil War. He was on the field in the following battles: Siege of Yorktown, Mechanicsville, Va., Gaines' Mill, Va., Savage Station, Va., Malvern Hill, Va., Bull Run, 2d, Va., South Mountain, Md., Antietam, Md., Stoneman's Raid, Va., Gettysburg (Fairfield), Pa., Kelly's Ford, Va., Brandy Station, Va., and several other encounters of smaller magnitude, including a fight with the Indians near Fort Zara, Kansas, in the summer of 1868.

In the field during the war his service was always with the troops at the front. He attended to the wounded under fire many times, and in the night after



WILLIAM HENRY FORWOOD, M.D., LL.D.

the battle of Gaines' Mill, Va., assisted by two men, he succeeded in passing the enemy's lines and brought off Lieut. James F. McElhone, 14th Inf., from a point on the field where he had fallen severely wounded during the day.

His horse was killed under him at the battle of Fairfield near Gettysburg. His escape from the enemy under fire is related in the history of the 6th Cavalry by Col. Carter, page 79. He was severely wounded through the right breast at the battle of Brandy Station, from the effects of which he had much trouble for many years.

He was the only medical officer at Fort Riley, Kan., during an epidemic of cholera in September and October, 1866, when there were 59 cases and 27 deaths (Surgeon-General's Reports), and during a leave of absence in the fall of 1870, he volunteered to nurse yellow-fever patients at the Quarantine Station near Philadelphia, Pa., and spent nearly the whole of his leave there, where a large number of cases occurred, in order to gain experience with that disease which he had never before had an opportunity to see.

Among other important points in Dr. Forwood's record is that of his service at Whitehall Hospital, near Bristol, Pa. He built the hospital and commanded it for nearly a year and a half. It had a capacity of 2,000 beds. Much important work was done. His rank at that time was only that of first lieutenant. During his tour of service at the Soldiers' Home he performed a large amount of general surgical work, including many important operations, which were exceptionally successful. At the same time he was professor of military surgery in the Army Medical School and professor of surgical pathology in the Georgetown College. Dr. Forwood's services in this latter capacity were recognized by the conferring upon him of the complimentary title of LL.D. by Georgetown University. During this time he was successively member and president of the Army Medical Examining Board for a number of years.

General Sheridan made several expeditions to the Rocky Mountains regions, taking with him many important personages, including the President of the United States, the Secretary of War, Senators, Governors, etc., and in all cases he selected Dr. Forwood to accompany the party as surgeon and naturalist. His collection of specimens were important; those relating to mineralogy and geology being deposited at Yale University and those relating to botany at Harvard and at the National Museum. His collection in the Museum is separately catalogued, and contains many new specimens.

Dr. Forwood planned and built the 1,000 bed hospital at Savannah, Ga., and the Montauk hospitals for the returning army from Cuba. The details of his work at Montauk are given in the Annual Report of the Surgeon-General for 1898, pp. 240-246. The first tent and the first board became available on August 8th, and sixteen days later he had 1,500 patients in bed under the care of physicians and nurses, and 1,700 beds were ready for occupation. An average of 100 carpenters a day worked without regard to hours, including Sundays, and during the first thirty days of the existence of these hospitals 9,000 patients passed through them, being received and disposed of as their cases demanded.

Among Dr. Forwood's publications the following may be noted:

Arrow-head as the Nucleus of Vesical Calculus. Circular No. 3, Surgeon-General's Office, 1871, page 260. At least 100 reports in similar form on various medical and surgical subjects, sent to Army Medical Museum with specimens at various dates.

Sphenes from Delaware County, Pennsylvania. Proceedings Academy of Natural Sciences, Philadelphia, Pa., 1876, page 176. [These were a new species of sphene of remarkable size and color never found before or since. They were asked for by Tiffany & Co., to take to the Paris Exposition, and by the National Museum to exhibit at the World's Fair in Chicago. They are now on loan exhibit in the National Museum.]

Observations on Flora, etc., during journey through portions of Wyoming and Montana with collection of specimens, Summer, 1881, Report of Lieut.-Gen. Sheridan, September 20, 1881, page 27.

Geological and botanical report, with large collections of specimens, distributed to Yale, Harvard, and the National Museum. "Report of an Exploration of Parts of Wyoming, Idaho, and Montana, Lieut.-Gen. Sheridan, August and September, 1882," page 36, maps and illustrations.

Labor among Primitive Peoples, Geo. J. Engelmann, pages 13, 84 and elsewhere in the work. 1884.

Shall Army Medical Officers Engage in Private Practice? Chicago Medical Journal and Examiner, September, 1884, page 259.

Hydrophobia and Imagination. Chicago Medical

Journal and Examiner, Vol. 53, August, 1886, page 125.

Weapons of War. Fourth Annual Report, Association of Military Surgeons, 1894, page 690.

Management of a Post Hospital, Critical Review. Journal of the Military Service Institution, Vol. XV., page 553, 1894.

Chapter on Military Surgery in "System of Surgery by American Authors," 1895, Vol. II., page 191.

Diagnosis and Identification Tags. Fifth Annual Report, Association of Military Surgeons, Buffalo, 1895, page 456.

Plea for Earlier and More Permanent Treatment of the Wounded on and Near the Battlefield. Sixth Annual Proceedings Association of Military Surgeons of the United States, Vol. VI., 1896, page 152.

Hernia Operations. Annual Report, Surgeon-General U. S. Army, 1896, pages 97-98.

Military Surgery. International Text-Book of Surgery. Collins and Gould. Vol. II., chapter XXX., 1900.

Selection and Early Care of Recruits for the Military Service. National Medical Review, July, 1898.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, June 21, 1902.

CORONATION HONORS—NEW PEERAGES, MEDICAL AND OTHER—DOCTORS AND WESTMINSTER ABBEY—SOCIAL DISABILITIES OF THE MEDICAL PROFESSION—THE ARMY MEDICAL SERVICE—THE MIDWIVES BILL.

THE question which at this moment most fiercely agitates the celestial minds of the leading members of the medical fraternity is that of Coronation honors. There is sure to be a grand pyrotechnic display of "stars" of various magnitudes, "crosses," and "ribbons" of one kind or another. "Garters" are not for such humble folk as doctors. A new Order of the Golden Fleece might well be created for the decoration of certain specialists whose professional skill is largely applied to the evacuation of what Rabelais calls the *aposthume pécuniaire*. In the meantime the profession has to be content with such minor bubbles of the "Fount of Honor" as baronetcies, knighthoods, and companionships of the Bath and the recently founded Victorian Order. Lord Lister is, and is likely to remain, the only medical peer. Had Sir William MacCormac lived to witness the Coronation it is possible that his ambition might have been gratified. (With an eager desire, rare even in a country in which snobbery grows with a rank luxuriance unknown in any other part of the world, the poor man longed to be a lord. Such an ambition is the less intelligible since he was childless and could not therefore transmit his titular honors. MacCormac's avidity for such distinctions must have been the source of many a snub that would have galled a prouder spirit to the quick. It is well known that those things are, as a rule, bestowed on the principle "Ask and you shall receive." MacCormac's importunity in asking won for him a title of which it is to be hoped he did not know; he was known at Court as the "Solicitor General." Who are to be the fortunate ones whom the King is to delight to honor? No one knows. There is so much chance and even caprice in the bestowal of such distinctions that even those most behind the scenes at Court cannot be sure up to the last moment that any given "solicitor" will receive anything.

I said just now that no peerage would probably fall to the medical profession. But a strictly unofficial list of new peers is current here which includes the name of one very eminent physician. It is said that Sir John Williams, the distinguished obstetrician, is to be Lord Deliver Us. Others of the same creation, as the heralds say, are Sir Edward Cassel, the Hebrew philanthropist who gave the King money to found a sanatorium, who is to have the title of Lord Help Us; Sir Thomas Lipton, known to you as a yachtsman and to us better as a provision merchant, who is to be Lord Preserve Us; and Sir George Lewis, the Jewish Attorney, who is supposed to have been useful to King Edward more than once in the past (His Majesty has a somewhat extensive and variegated "past," if reports speak the truth) and who will therefore take the appropriate designation of Lord Defend Us.

There is much heart-burning among members of "Society" about the difficulty of getting seats in Westminster Abbey, and among others the physicians of the Royal Household consider themselves slighted because they have not been invited to be present at the ceremony. I suppose they have some reason to complain of this as an indignity. Doctors in this country are accustomed to take a back seat in a social sense everywhere, and they take it with such grace as they can; but they may well feel resentful when even a back seat is not given them. The slight is all the more keenly felt as a proposal lately made to the King on behalf of the Court that they should have a distinctive uniform was curtly refused by His Majesty with the remark that the doctors looked very well in black velvet, which is the ordinary Court dress.

The social disabilities attaching to the medical profession—I do not say to individual members thereof—is becoming a very sore point with many. The majority of civilian practitioners care little about the matter, but in the services, especially in the Army, it is a cause of much discontent. In the case of the Army, indeed the social difficulty, much more than any other grievances real or supposed, has led to the depletion of the medical service. Men of spirit and self-respect naturally would not enter a service in which they were treated as the social inferiors of combatant officers, who might be their own brothers or cousins. At some of the military clubs medical officers are systematically blackballed. The Court sets the example of this social ostracism, for even officers who have had the titular distinction of Honorary Physician or Surgeon to the King bestowed on them in recognition of good service are never invited to Court "functions." The present Secretary of State for War, Mr. St. John Brodrick, has shown a praiseworthy disposition to make the medical service of the Army attractive to a good class of men, and it is generally admitted that all substantial grievances have now been removed. But as long as the sentimental grievance continues to exist, the men who would make the best officers will continue to seek other spheres of activity.

The Midwives Bill passed its third reading in the House of Commons a day or two ago, and it is pretty certain now to become law during the present session. It virtually establishes free trade in midwifery practice, emancipating the midwives from anything like effective medical control. The Government is evidently determined to push the measure through, and their big majority of faithful henchmen who vote as they are told enables them to do what they like. A great howl will doubtless go up from the doctors, but they will get scant sympathy from the public for they have allowed a few noisy nonentities to appear as their spokesmen, and the ravings of these futile folk have disgusted sensible people. There can be no doubt at all that legislation for the provision of help for poor women in their hour of travail is urgently needed, and the promoters

of the Midwives Bill have striven, according to their lights, to remedy a crying evil. Had the medical profession coöperated with them from the first, in a fair and helpful spirit, a really good measure would have been framed. But they allowed themselves to be represented as opposed to all legislation, and came forward with offers of help only when they saw that legislation was inevitable. The situation recalls the passage in Johnson's famous letter to Lord Chesterfield, in which he asks if a patron is not one who watches the struggles of a drowning man in the water without making any effort to go to his assistance, and when he has fought his way to safety comes forward and encumbers him with help. For the same reason that Johnson dispensed with patrons, the promoters of the Midwives Bill have dispensed with the help of the medical profession. The result is a measure which, while providing for a supply of trained midwives for those who can pay for the luxury, leaves poor women who cannot pay to the tender mercies of ignorant and dirty women who practise midwifery without any qualification for the work.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

ACCIDENTS DURING CHLOROFORMIZATION—GANGRENOUS APPENDICITIS—CONGENITAL FISSURE OF THE NOSE—ELIMINATION OF PHOSPHATES IN ACUTE DISEASE—PHLEBOSCLEROSIS OF THE SUPERFICIAL VEINS OF THE EXTREMITIES—RETENTION OF CHLORIDES DURING NEPHRITIS—THE BLOOD IN VARIOUS FORMS OF EXPERIMENTAL TUBERCULOSIS IN THE GUINEA-PIG—THE ORIGIN OF DAUGHTER HYDATID CYSTS—A VARIETY OF DIPLOCOCCUS ASSOCIATED WITH THE BACILLUS OF TUBERCULOSIS IN MENINGITIS—SPECIFICITY OF THE CHANCROIDAL BUBO—MUSCULAR GLYCOSURIA—OCULAR SYPHILIS.

DURING the early part of last month the French societies held numerous interesting meetings. The following subjects will reward the attention of our readers:

LABORDE, at the Academy of Medicine, May 13, 1902, recalled apropos of the recent discussion on chloroformization the fact that the vapors of this drug are able by their irritating action upon the nervous expansion within the nasopharyngeal mucous membrane to determine a brusque arrest of the heart and respiration. This paralysis occurs, moreover, very easily if the subject be put under chloroform during a state of very great excitement. In order to prevent as far as possible this cause of death, which is always imminent, as soon as one approaches the nose of a sick person with a compress soaked with chloroform it is necessary to decrease the unnecessary excitement of the patient and the susceptibility of the terminal expansion of the fifth cranial nerves. The best means, according to the author, of accomplishing this purpose consists in giving a preventive injection consisting of hydrate of morphine, 0.10 gram, sulphate of atropine 0.01 gram, sulphate of sparteine 1.00 gram, distilled water 10 grams to every individual to be chloroformed. Irrigation of the nasal mucous membrane and of the pharynx and glottis with a concentrated solution of cocaine is also of great benefit in suppressing the susceptibility of these regions. It is also necessary to have care to keep the tongue forward in the mouth with special forceps during the entire duration of the chloroformization, thus avoiding a sliding of this organ backward over the orifice of the glottis, thereby provoking asphyxia, and being ready to carry out rhythmical traction on this organ in case unfavorable symptoms arise.

QUÉNU, at the Society of Surgery, May 7, 1902, said that it is necessary to distinguish the various forms of gangrenous appendicitis from the point of clinical course according to whether or not the gangrene appear primarily or secondarily, and whether the appendical process be or be not walled-off, which will determine the gravity of the prognosis. He cited one case of this class in which death followed by septicemia, although the abdomen had been opened and the abscess cavity freely drained. It was carefully washed with peroxide of hydrogen. At the autopsy there were found various lymph-nodes broken down into abscesses precisely like the large one opened about the appendix. In his experience he has seen only one case of appendicitis with primitive gangrene, in a seven-year-old child who had had symptoms of appendicitis several months previously. It was seized in the night with active pain in the right iliac fossa and a fever of 38° C. Over McBurney's point there was tenderness, on pressure, extending toward the middle line and even into the left flank. He decided upon an immediate operation which was carried out on the day of the beginning of this attack. When the abdomen was opened putrid liquid and a gangrenous lymphangitis in addition to appendicitis were found. Like Jalaguier he feels that pain localized at McBurney's point really corresponds not so much to appendicitis as to lymphatic adenitis at the ileocecal angle. This is in fact the only explanation which can be furnished of the fact of the fixidity of the pain at the point of McBurney, which contrasts singularly with the variability of the position of the appendix. The diffusion of toxic products in these nodes multiplies as a rule the number of tender points and furnishes a very good index of the gravity of the appendicitis. In illustration of this fact he mentioned a case upon which he had recently operated. The diagnosis of gangrenous appendicitis rested not only upon the gravity of the general condition of the patient, but also upon the diffusion of tenderness toward the middle line and toward the left side. He therefore thinks that with a careful study of tenderness on pressure it is possible to make from the outset a diagnosis of gangrenous appendicitis and therefore to practice early intervention which is necessary in all these cases.

KIRMISSON described the case of a ten-year-old girl who presented a congenital fissure of the right nostril without any other malformation of the face. In order to remedy this deformity the author freed the skin around the nostril and was thus able to build up an orifice of fairly normal aspect. The final result was not by any means bad from the point of view of cosmetic effect.

ACHARD, at the Medical Society of the Hospitals, May 9, 1902, read a paper concerning the elimination of phosphates during acute sickness. He said that it follows from the researches which he has made with Laubrey and Thomas that in acute diseases which are accompanied by a decrease in the elimination of chlorides there is not a constant parallelism in the ratio in the urine between the chlorides and the phosphates. It is true that among asystolics under the influence of improvement produced by rest in bed, milk and digitalis, one may see at the same time an increase in the volume of urine, in the total of chlorides and of phosphates, because the insufficiency of the kidney circulation disappears, but in other cases of acute disease this concordance usually fails. The elimination of phosphates is frequent and one may often observe it in advance of the crisis in chlorides, even in typhoid fever, at a period when the general condition of the patient is not improving. On the other hand these discharges of phosphates may fail while there are present crises, thermic diuretic and of chlorides. A proper diet no doubt influences a decrease in the total of phosphates

thus discharged. On the other hand it is not one of the causes of these discharges themselves because they supervene equally well after invariable alimentation. The subcutaneous injection of the glycerophosphate of soda in a dose of 3 grams, representing approximately phosphoric acid 1 gram, increases the total of phosphates in the urine in healthy subjects. In acute disease it is also ordinarily followed by an augmentation of this salt, a fact which is not favorable to the hypothesis of a retention, but the interpretation of this phenomenon is more difficult in the case of phosphates than of chlorides because the falling-off of the phosphates is less pronounced, the discharge is less marked and the variations more numerous. Likewise a study of the phosphates seems to offer less clinical interest than do those of the chlorides in the matter of appreciating the appearance of the crisis, which is determined by acute disease. So far as the diagnostic value of the elimination of phosphates is concerned he states that there is great doubt. In typhoid-fever patients, for example, the average of this salt before a total discharge may retain at a high level (2 to 2.61 grams), while during acute tuberculosis, complicated by typhoid fever, it rests at a low level (1.11 grams). Thus apparently a phosphaturia in exaggerated degree never characterizes tuberculosis.

SOUQUES showed in the name of Jauvier and himself a forty-year-old man afflicted with pulmonary tuberculosis and at the same time with a chronic induration of the superficial veins of the extremities, being more particularly the external and internal saphenous veins and for the most part the superficial venous trunks of the forearm and arm. The other veins of the skin in various parts of the body escaped. No varicosities could be found anywhere. These alterations in the veins of the extremities appeared insidiously without giving any symptoms of pain or of edema. According to Letulle these lesions are quite different from those of common chronic phlebitis and appear to constitute a special anatomical and clinical type, which might be designated under the name of phlebosclerosis. The cause of this affection is not entirely obscure, but the action of various factors is acknowledged by authors, for example, tuberculosis, chronic lead-poisoning, alcoholism, etc. Their claims need corroboration.

ACHARD has been studying the subject of retention of chlorides in nephritis with Claude and Loeper and aiming to explain the chloruria of alimentary origin in subjects afflicted with nephritis. In acute nephritis there is observed a retention of these salts similar to that which he has recently described in other acute affections which are not complicated by kidney disease. It is not therefore necessary in order to explain hypochloruria, which is generally very pronounced, that some difficulty of special relation with elimination be created by the kidney lesion. In subacute nephritis these phenomena, of course always variable, are generally less in degree than they are in acute nephritis. So far as chronic interstitial nephritis is concerned retention is observed just as soon as acute relapses occur and notably during the uremic seizures. In addition to these circumstances the kidney can perfectly well eliminate chlorides taken in by mouth almost as well as in the healthy subject. Nevertheless there is occasionally a hypochloruria in these chronic nephrites. From these facts it follows that nephritis, acute and chronic, presents a falling-off in the total chlorides in the urine which cannot be properly considered a direct effect of alteration in the kidneys.

CLAUDE and ZAKY reported at the Society of Biology, May 10, 1902, that they had inoculated 26 guinea-pigs with an equal quantity of tubercle bacilli at the the same point on the skin of the stomach. Of these animals 21 underwent various forms of treatment (lecithin in different dosage, alone or combined with creosote or with sulphate of iron). The five others were kept apart by themselves without treatment. Of these five all died at the end of ninety days and a study of their blood showed a progressive decrease in the various hematic elements and in the total of hemoglobin and a distinct increase in the number of leucocytes. As to the latter more particularly the quantity of polynuclear cells exceeded 80 per cent., while the various forms of mononuclear cells decreased and the eosinophilic cells disappeared altogether. The guinea-pigs which were treated survived a much longer time. Seven of them are still alive and in good condition. Those which died presented at the autopsy sclerosizing lesions of various organs and mechanical alterations like infarcts and hemorrhages, but in all tuberculosis was more or less altered in its evolution. Moreover in the animals which were treated the blood showed characters entirely different from the five which were treated. The number of red blood-cells was very much increased or occasionally diminished to a very slight degree. The hemoglobin followed the same rule. Leucocytosis was very inferior to that observed when tuberculosis is following a rapid evolution. In point of fact the number of polynuclear cells was only slightly augmented and the greatest increase was observed in those animals which died after a very short course of treatment. Those which lived a long time or which are living still show an average number of polynuclear cells and pseudo-eosinophilic cells of 60 per cent. The true eosinophilic cells on the contrary reached a total of 12 per cent. during the period of initial reaction to the infection and then slowly decreased. The mononuclear cells, the transition cells and the protoplasmic vacuoles increase in favorable cases. All these observations are somewhat analogous to those which are found in cases of human tuberculosis.

DÉVE read a paper on the origin of daughter hydatid cysts, embracing observations which he has made not only upon the animals but in mankind. He tends to show that the formation of echinococcus cysts seems to embrace multiple origins, because they can be produced (1) from cellular elements in the cuticle, (2) in the germinal membrane, (3) in the proliferating vesicles, (4) from cellular elements not differentiated, comprised within the proliferating vesicles, (5) from the scolices, (6) from preexisting daughter vesicles by an effacement and obliteration in number of their walls. These cystic formations, notwithstanding these differences in origin, possess when once developed the same constitution and characteristics as do the mother cysts. Therefore it is not necessary to oppose these various theories one against the other which diverse authors have offered to explain their origin. None of these various processes once begun need be necessarily exclusive of the others.

DELILLE and BABONNEIX described a variety of diplococcus associated with the bacillus of tuberculosis in a case of tuberculous meningitis secondary to tuberculosis of the brain. They found this germ in very great number and with morphological characters closely similar to those of the pneumococcus in the cephalorrhachidian fluid obtained by lumbar puncture. They grow on all the media and at the temperature of the laboratory. They cannot therefore be the ordinary meningococci, but a species of germ closely allied to the enterococcus of Thiercelin. An examination of the blood in this patient showed, as well as numerous of these diplococci free and contained in the polynuclear cells, about 30 per cent. of lymphocytes, the presence of which could hardly be explained except as being excited by the bacillus of tuberculosis.

SIMOND stated that by inoculating with the pus from chanchroidal buboes upon blood serum he obtained cultures of the bacillus of Ducrey, associated with the microbes of a secondary infection. These facts should be added to those observed by Bezançon to prove the specific nature of chancroidal bubo. They show equally well the utility of employing as a culture medium this serum preparation in order to cultivate the bacillus of soft chancroid.

GADÉAC and MAIGNON, at the Academy of Sciences, April 28, 1902, discussed the subject of glycosuria of muscular origin, having established the fact that in guinea-pigs and dogs ligature of a paw or the destruction of a mass of muscle always determines the appearance in the urine of glycogen with or without glucose. This led them to make similar observations upon wounded men. They found that in some types of total fracture of the extremities both in children and in adults the elimination of glycuronic elements, especially of glucose, is present beginning in general two or three days after the accident and persisting three to four weeks, that is to say, until the local troubles are entirely gone at the point of fracture. Glycuronia always precedes glycosuria, but it is not quite as constant. When present it is proportionate with the gravity of the lesion. It is therefore much more abundant when the fractures are multiple. This excretion of the sugary elements is probably of muscular origin because in animals sacrificed after the destruction of a paw the muscles were not found in a healthy condition, but showed traces of sugar; the muscles in the injured limb especially abundant in sugar.

GALEZOWSKI, at the Society of Dermatology and Syphilography, May 5, 1902, presented a young woman, suffering from an interstitial karatitis and lesions of the eye due to hereditary syphilis. Considerable improvement resulted in this patient from mercurial inunctions and the internal exhibition of adrenal extract. In syphilitic affections of the eye it is impossible to assure a permanent cure without prolonging mercurial inunctions for a long time(two years). In the hands of this author the iodide of potassium has never given any result in these patients. It is also possible to convince one's self by an analysis of the urine that the mercury is eliminated more rapidly and in larger proportion in patients who are taking at the same time the iodide of potash. He therefore concludes that the influence of mercury upon the system is much enfeebled by the so-called mixed treatment.

SOCIETY PROCEEDINGS.

AMERICAN THERAPEUTIC SOCIETY.

Third Annual Meeting, Held in New York, May 13, 14 and 15, 1902.

Business Meeting.—At 11:30 A.M. Dr. Reynold Webb Wilcox read the presidential address on the Review of the Progress of Therapeutics for the Last Twelve Months. [See MEDICAL NEWS, page 1064.]

Address of Welcome.—This was delivered by Dr. T. E. Satterthwaite, who said in part: We welcome you with the conviction that you will help to make the third annual meeting of this national society the best of the series. Organized in Washington, through the hearty coöperation of the Therapeutic Society of the District of Columbia, in the spirit of the motto of our Society, *Cito, tute, et jucunde*, and with the aid of colleagues who chanced to be in attendance at the eighth decennial convention for the revision of the U. S. Pharmacopea, we were fortunate in having both experience and the concurrence of representative men from most of our larger cities. By happy coincidence the idea of founding a national therapeutic society had occurred simultaneously to many minds. Dr. Horatio C. Wood of Philadelphia, a man distinguished on both sides of the Atlantic, as a leader in practical and scientific therapeutics was first president. Our President, Dr. R. W. Wilcox, presided at the second annual meeting in Washington, May 7-9, 1901. Smoothness and harmony characterized the deliberations, executive and medical. Papers were numerous and discussions thorough and brilliant. Our reception was cordial and generous. It then became apparent that we had a field of usefulness before us which would yield results equal to those of any other national society. The objects of this society are the study and advancement of therapeusis. Other medical associations of the national type devote themselves to any and all topics relating either to pathology, etiology or symptomatology of general medicine or surgery, or to any special department of them; while our distinctive aim is a study of the present and future of therapeusis in the broadest sense. We are to have papers on therapeutics from each of the recognized departments of medicine by eminent specialists who are men of national and international reputation. The spirit of commercialism cannot enter our meetings. The regulations governing our Society membership state that it is confined to "reputable physicians engaged in the regular and active practice of medicine, who are at the same time interested in materia medica and therapeutics in any or all branches; or others engaged in legitimate research and that abandonment of active practice or legitimate experimental research shall nullify membership." Act X., Section 3, of our By-laws states that "no paper, report, abstract or other communications either written or verbal which directly or indirectly commends or advertises any secret, patented or trademarked product or method of treatment shall be presented to or received by the Society nor shall any discussion upon such product or method be permitted" except for the purpose of recording adverse action upon it. Recognizing and admiring the energy, intelligence and ability of our great pharmaceutical houses and recognizing that American applied pharmacy and methods are an object lesson to the world, we propose to discountenance any and all methods which may be construed as favoring commercialism. You have honored us by accepting our invitation to be here. We are duly conscious of the honor and responsibility. New York is the medical center of the country, including as it does five boroughs with not less than three and one-half millions of inhabitants, spread over an area of 325 square miles, with its seventy-five or more hospitals to say nothing of its institutions for the care of the sick; its eight or more medical schools, its thousands of students and its forty or more medical journals; its pharmaceutical establishments and bureaus of medical supplies. And there is no cessation in the city's activities, medically, from one year's end to the other.

Climatic Treatment of Tuberculosis.—This paper was read by Dr. G. E. Tyler, of Denver, Colo. There is unanimity of opinion among phthisiologists that the atmospheric question is the most important of all in treatment of pulmonary tuberculosis. The ideal climate for tuberculosis is one with pure air, little humidity, abundant sunshine, low wind velocity, and low atmospheric pressure. The tuberculous individual must absolutely have the purest possible air; it matters not how favorable the climate, if the patient shut himself indoors, sleep with his windows closed and take quarters in a thickly-populated district he will not improve. Humid climates enervate the already depressed consumptive, increase expectoration and aggravate his cough. That climate is best which has the maximum amount of sunshine; first, because such a climate has

a low percentage of humidity, and, second, because the patient is far more likely to be out of doors in sunshiny weather. The direct rays of the sun also have a beneficial effect. Altitude or atmospheric pressure is a very potent climatic factor. Atmospheric pressure varies inversely to the altitude. A patient with an overtaxed heart should never be sent to a high altitude. Organic heart disease is a positive contraindication to high altitudes. If the heart be overtaxed at a low altitude it aggravates the condition and hastens the end; if the patient go to a high altitude and if compensatory hypertrophy has occurred at the low level, compensation is shortened. The neurasthenic does badly at high altitudes. One must always consider the stage of a disease in advising a change of climate. The patient's responsiveness to heat or cold is important. It is folly to send a person away for climatic reasons and not have him under competent medical supervision. Do not send a sick young person away from home if he be strongly attached to his family. Homesickness is likely to come on, energy to be lost, despondency to ensue, nutrition to suffer, and all climatic advantages overbalanced. Yet, if the change be made, it should be made early while recuperative powers are active. The patient's finances are important. The poor man from the city can seldom afford to hazard a change. Instead of finding work at proper remuneration he meets disappointment; rest, not work, is what his condition demands. Climatic treatment is the most important of all remedial measures. Properly selected climates cause many arrests and a large percentage of cures. Early diagnosis is essential. Cavity cases are seldom benefited. Profuse secretions are contraindications. Climates with high winds are to be avoided. That temperature should be selected in which the patient is most comfortable. The indigent, rebellious, the nostalgic should not be sent away for climatic treatment. In all cases open-air life and medical supervision are essential.

Medical Treatment of Pulmonary Tuberculosis.—Dr. Jesse Shoup, of Washington, D. C., read a paper on this subject. He says that one must rely on drugs which promote metamorphoses which result in healthy tissue construction. The disease cannot be eradicated, so we must conserve the patient's energy whenever it is possible to do so. Those drugs which are bactericidal and eliminated by the lungs must be used to attack the disease *in situ*. Of the first class, iron, arsenic, strychnine, phosphorus and vegetable tonics may be mentioned. The new arsenic preparation, cacodylic acid, seems to be of some benefit in increasing the body weight, lowering the temperature, causing disappearance of night sweats and amelioration of general conditions. Good results are obtained from proteids containing phosphorus. Of the second class of drugs creosote may be taken as a type in ascending doses, given either in cod-liver oil emulsion or vaseline emulsion. Good results have been obtained from the use of icthyol. Of the third group of medicines serums and cinnamic acid multiply the leucocytes. The intravenous injection has been used with good results. Cinnamic acid increases the number of white blood-corpuscles fully 50 per cent. and by setting up an area of active inflammation around the tubercle cures the disease. Shoup uses the following prescription:

Arsenious acid	.065
Carbonate of potassium	1.1289
Cinnamic acid	1.944
Boil with distilled water to make	28.38
Add	
Aqua in extract opium	1.944
Brandy	14.175
Distilled water, q.s.	56.7

He begins with three drops after dinner and gradually increases to 20 drops. Serumtherapy in pulmonary tuberculosis has not accomplished all that was anticipated. It has not proved a specific. Thymol, menthol and cocaine are good as intestinal antiseptics. Fever is best treated with rest and cold baths, sponging with alcoholic and mentholic solutions. Atropine, agaricin and aromatic sulphuric acid in fifteen-drop doses seems to be effective in night-sweats. Codeine is the most reliable for irritable cough. Inhalations of oleaginous vapors containing menthol, iodin, carbolic acid or the essential oils quiet cough without disturbing the stomach. For hemoptysis, rest and quiet and ice to the chest, morphine and hydrastin internally and hypodermatically give the best results. Aconite and veratrum viride is useful when the pulse is strong. Gallic acid is good and gelatin injections may be used. Guaiacol carbonate and bismuth subnitrate or tannalbin or tannigen or iodomuth are all good for diarrhea. For the weak, failing heart, digitalis, strophanthus, strychnine and alcohol are used. For insomnia, trional, the bromides, paraldehyde and morphine. Hyoscine hydrobromate may be given in extreme cases. Shoup is of the opinion that patients who suffer from tuberculosis should be told of the existence of the disease. He should not be told that he has bronchitis or a disordered stomach. He must know the way to health is not as the way to the spider's parlor. He must be taught to live correctly. Interest him in himself. Let him use a thermometer and find out at what time it reaches its highest point. Change his climate.

Capillary Area.—Dr. Eli H. Long, of Buffalo, N. Y., read this paper. The term capillary area is an inclusive one with regard to simple tissue elements and a comprehensive one with regard to functions. In our present discussion we will understand the terms to include capillaries, arterioles and venules, the lymphatics and the cells or anatomical units of the tissues; or cells, capillaries surrounding and enclosing them and the vessels of supply and discharge. The importance of considering these structures together appears from the standpoint of function. The term nutritional area is equally applicable and comprehends every possible tissue of nutritive activity, whether possessing sensory, dynamic, secretory or general nutritive function. We are accustomed to speak of "vital organs and vital functions." There are no distinctively vital organs. The vital elements of the body are cells. Life is perpetuated by cell function; death begins with cessation of that function. We are accustomed to regard the heart as a vital organ, it being functionally related to nearly every cell in the body, but the seal of death may be stamped on a man with a heart strong and normal. Death from primary cardiac disease is uncommon. We must look beyond the heart for primary changes that mark the path toward dissolution. The resources of the heart are such that it guards for a long time the life of the individual by compensatory growth and function, and when its resources begin to fail disease is too often first recognized. The circulatory functions should be studied from the capillary instead of from the heart view-point. The peripheral factors are important and relegate to their proper place the subordinate central or mechanical factors. The purpose of the whole circulatory, respiratory and digestive apparatus is to feed properly the cells of the capillary areas. Nature subordinates all of these to the cells. The profession is learning no more important lesson to-day than the elaborations and workings of the great system of cell laboratories—the capillary area of the various organs and tissues. Within this defined capillary area are tissue cells bathed in a nutritive fluid derived from the blood, the normal amount of which depends on the

blood-pressure in the capillaries, which is influenced by the amount of pressure of the entering arterial blood and the rate of discharge of the venous. The proper balance of pressure between the arterial and the venous side is all important to functional activity of tissues. Slight variation may be compensated by the rate of lymphatic absorption, but considerable lessening of arterial pressure long continued, or any persistent obstruction of venous current will produce in the intravascular fluid leading to failure of function and edema. The force of the circulation is contributed by the heart, but the force of ventricular contraction is too powerful for the delicate structure of the capillary areas. Hence the mechanism of fine gradation of blood-pressure to suit each tissue, by the fact that blood-pressure within capillaries is much lower than in arteries. Two factors cause the condition, the expansion of the arterial tree and the muscular control of the blood-current, especially in arterioles. Coöperating with these factors the elasticity of the arteries furnishes the means of maintaining a constant uniform blood-pressure.

Changes Due to Age.—With increasing age capillary circulation is altered in two important ways: (1) After puberty, or completion of growth, many capillary vessels disappear. (2) As age advances the arterial walls, in common with other tissues become less elastic. These influences tend to increase pressure within the arterial system. Vaso-constrictor action is a direct protective in other cases, as carbon dioxide in excess, or other toxic substances circulating in blood, stimulates to firmer constriction. Nature is careful to protect the capillary structures in the body by limiting the amount of blood entering them. The function of the arterioles includes dilatation as well as constriction, and these regulate the mechanism of the capillary supply. This regulating function is most important in all ages, but its *conservation as age advances is not surpassed in importance by any matter that claims our skill.* In a given case the condition of the capillary area, nutrition, vascular tonus, its reactionary effect on the heart and circulation, must be studied in respect to its blood-supply. The terms proper blood-supply and nutrition are not synonymous. The blood-supply may be abundant and the nutrition deficient. In vascular disease we find it necessary to discourage overeating and to force elimination. The vascular tonus or reacting power of the arterioles is of the greatest importance. In the treatment of deficient flow of blood into the capillaries, the greatest benefit is derived from measures that induce dilatation of the arterioles. The desirable condition of arterioles is neither contraction nor dilatation, but of good reactive power in either direction. This is the best conception of vascular tonus. Diminution of capillaries must increase arterial pressure. This may be compensated for in part by dilation of the arteries, but throws more work on the heart by the increased resistance which blood-currents meet in restricted capillary system. Lessened elasticity or hardening of the vessel walls induces higher arterial pressure; the increased resistance interposed causes hypertrophy, a compensatory provision of Nature's conservatism whereby pathological changes to which all are subject are postponed for years. Powerful heart action antagonizes arterial rigidity and capillary resistance sufficient to maintain cell nourishment. The heart becomes larger with age. Faulty cell metabolism is of great moment. We have hereto taken into account the venous side of capillary area and its related factors. Through loss of elasticity in arteries the force of the heart's action is unevenly distributed to the capillaries. Active vasoconstriction and lessened capacity of capillary system cause less active flow of blood through this area. The strong heart may overcome venous stasis for awhile, but in time there is less active discharge from the venous area. The eliminative organs, especially the kidneys, have undergone changes similar to those in the arterial wall, through lessening of function, and there is added to venous stasis blood not properly oxygenated. The result is stagnation and toxic effects in tissue cells. A full diet may be surcharged with nutriment. But the trouble is on the other side of nutrition. Catabolic changes are at fault. It is the beginning of a gouty diathesis. Nearly every organ in the body may suffer from cell function failure. Heart, liver and kidneys claim our attention. From hypertrophied heart we turn to dilating heart, sluggish liver and kidneys. The coronary arteries degenerate with others and the heart's nutrition suffers. We have discussed the intrinsic factors; now for the extrinsic: Chief are excesses in diet, alcoholic abuse, and lack of exercise, hastened by clogging tissues, venous stasis and deficient catabolism. The line of prophylaxis is the most important in therapeutics.

Treatment of Capillary Conditions.—Begin early. The battle is against us if we wait till the heart begins to suffer. Restrict diet, alcoholic indulgence and mental work. Abundance of sleep, recreation and proper exercise, elimination by means of salines should be insisted upon. Less nitrogenous food is demanded; proteids should be diminished. Perfect metabolism must be favored, efficient capillary circulation secured and a regimen established to perpetuate the same. All muscular tissue requires exercise to maintain good reactive power. So with arterioles. The most important agents are those that induce capillary exercise calling forth both contraction and dilatation. We thus exert a tonic or stimulating action on cell metabolism and elimination. The daily cold bath seems to meet indications quite fully. It is contraction followed by dilatation of arterioles. Friction, gymnastics and massage are to be commended. In drugs the nitrates well represented in nitroglycerin are very useful in advanced cases in which arterial pressure is excessive. In the action there is lacking the tonic effects of a cold bath. It is a question whether opening arterioles by drugs is the best we can do for these cases, but it is an important thing to do. To relieve the heart by lessening the resistance against which it has to act is an important thing to do. Nitrites cannot be looked upon as ideal remedies. The success of any treatment depends upon a good peripheral circulation. The carbonated brine baths produce much the same effects upon the cutaneous circulation. They rest the heart as well and probably stimulate cell nutrition much more.

Therapeutics of Chromium Sulphate (Green Chromic Sulphate).—Dr. Louis Kolipinski, of Washington, D. C., says that its position as a remedy might be assigned near zinc or manganese. Its exhibition should be in basic combinations, thus developing its primary action. He has used the drug internally in a large number of cases for the past four years and his results have been favorable. He uses the green chromic salt. It has an acid taste and a metallic after-taste, and dissolves slowly in water and in alcohol. It acts as an antiseptic in proportion of 1 to 200. He uses from 1 to 4 grains three times a day, taken before or after meals either in tablets or water solution, and this dosage is not followed by gastric, intestinal or other disturbance. He has demonstrated it to be non-accumulative and non-toxic. It has absolutely no beneficial effect in acid dyspepsia, dilatation of the stomach, ulceration of the stomach, spasmodic asthma, angina pectoris, diabetes mellitus and insipidus, chlorosis, morphinism, syphilis, tuberculosis, carcinoma, epilepsy, mania, senile dementia, paralytic dementia, spastic paralysis and paralysis agitans. The effects were positive and favorable in cir-

rhosis of the breast, castration menopause, functional impotency, chronic alcoholism, nervous and pregnant vomiting, neurasthenia, locomotor ataxia, exophthalmic goiter, migraine in all its forms. Numerous cases are cited showing its marked effect.

Recent Advancement in the Management of Diseases of Children.—Dr. Charles Gilmore Kerley, of New York, read this paper. An important advance is marked by the acquirement of a closer knowledge of child-life and of its requirements which has been accomplished through the study of the child as an entity. The child requires pure food, fresh air, and suitable clothing. Artificial feeding of infants now rests on scientific basis, due to the efforts of pediatrists. The milk at their disposal is as pure and safe as is possible. The milk after being drawn aseptically is rapidly cooled and kept at a low temperature, below 45° F., until delivered. An infant requires in its food certain elementary substances, such as fat, sugar, proteids, inorganic salts and water. We must follow mother's milk as the model in preparing an artificial milk. It is the change of the relative proportions in the use of cream, milk, milk-sugar and water, so that they will correspond sufficiently to mother's milk as to be of practical service. Kerley likes the term "adapted" milk in place of modified milk. He also lays great stress on the value of fresh air in sickness and health. The greatest life-saving measure as regards disease rests in the knowledge of the nature and manner of treating summer diarrhea. In these cases the trouble early is in the intestinal contents and not within the intestinal structure. In summer diarrhea the child is poisoned. We give laxatives to clear out the intestine and further remove the putrefactive milk-culture field by substituting a carbohydrate diet. He advocates the use of intestinal irrigation and simple disinfectant drugs. He advises the discontinuance of the milk at the first appearance of trouble; it should not be resumed until the stools approximate the normal and the temperature falls. Sterilized cow's milk, mother's milk and egg-albumin will furnish as good a culture field as grocery milk. Eczema in children is due to faulty nutrition and improper feeding or to gastro-intestinal derangements with the absorption of toxins, products of a faulty intestinal digestion. Lack of cleanliness, excoriating discharges and improper clothing contribute their share. Constitutional measures are advised in the treatment of this disease. Correct the errors in the life of the patient, give him a suitable diet, relieve the indigestion and the skin disease will often disappear without ointments, lotions or the very popular Fowler's solution. Pneumonia should be treated with common sense. The cases are apt to be overtreated, too much clothed, the sick-room kept too warm or inadequately ventilated. Keep the patient comfortable and avoid complications. The first step is to reduce the diet. Illness with fever considerably reduces the digestive capacity of the child. Useless syrups given in cough mixtures in bronchitis and bronchopneumonia grossly upset the stomach when given in the family teaspoon, usually two drams every two hours, and do nothing else. Tartar emetic, ipecac, etc., can be most satisfactorily administered in tablet form. We can do without alcohol in most cases. Local applications to the skin and medicated inhalations, lavage, gavage, baths and packs are excellent in pediatric practice. Allow sick children to rest. Do not bother them every hour in the twenty-four, taking the temperature, giving food and medicine, the bath, the enemas and irrigations. The interval left for rest is very slight. In very severe cases do not disturb the patient oftener than once in two hours. Antitoxin is the drug *par excellence* in diphtheria.

Recent Advances in Gynecology.—Dr. Matthew D. Mann, of Buffalo, N. Y., read a paper with this title. Gynecology has advanced more than any other department of medicine during the last twenty-five years. The most startling recent innovation is spinal cocainization. This started out to become very popular, but of late nothing has been heard of it. It is not so harmless as is claimed. Besides this danger it has very unpleasant symptoms, such as severe headache, vertigo, vomiting and involuntary defecation. That the patient is conscious is also a very grave objection, especially in nervous and hysterical women. The form of anesthesia now in greatest favor is nitrous oxide gas followed by ether. The results are exceedingly satisfactory, much less ether is used and the effect on the lungs and kidneys is not so marked. Antiseptic solutions should be banished from operating-rooms. The disinfection of the hands having been found to be almost an impossibility, rubber gloves are employed. A perfectly aseptic and absorbable ligature must always be a *desideratum*. Catgut and kangaroo-tendon are the best. Catgut can be rendered absolutely sterile by the Bissell method without destroying its strength. In this the gut is soaked in a solution of bichloride of mercury in ether varying the period of immersion to the size of the gut. It is then boiled in alcohol to extract the bichloride. Organotherapy has occupied a great deal of attention. Thyroid extract in certain uterine conditions gives good results, especially in the case of fibroids and in certain cases of menorrhagia. It might be used also in tumors. Ovarian extract does not seem to be of much account. Transplantation of the ovary is possible and pregnancy has followed in some cases. Mammary extract has not given satisfactory results. Adrenalin, both internal and as a local application, hypodermically or mixed with salt solution for hypodermoclysis, seems to be a real addition to the materia medica. Silver in the form introduced by Crédé is an antiseptic and is very powerful in its action and harmless to the system of the patient. The allotropic form (collargolum) has many advantages over the soluble preparations. In the form of Crédé's ointment some striking results have been reported. The Germans have recently introduced the introduction of live steam into the interior of the uterus for the prevention of hemorrhage. This should be done after full preliminary dilatation and is applied from fifteen to twenty seconds. Great care must be taken, as the action may be so deep as to cause entire obliteration of the uterine cavity. It is also recommended in fibroids, menorrhagia, subinvolution and hemophilia. As to the matter of operations there is nothing positively new. The operation for prolapse seems to be the same. Ventral fixation by which the uterus is fastened into and not upon the abdominal wall seems to affect an absolute cure, but is only applicable to women who cannot bear more children. The same is true of vaginal fixation. The question as to when and how the uterus should be removed in cancer is still unsettled. In operations for the appendages a new method of hemostasis has recently been employed. Instead of tying the vessels they are crushed with the angiotribe. The method, however, seems to be unreliable. A considerable advance has been made in diseases of the bladder. Cancer of the rectum has been unsatisfactorily treated. Edebohls removes the uterus in order to get room and then resects, while the author, after separating the rectum below and above the growth and removing the cancer, unites the ends with a Murphy button. There is little new in the treatment of suppuration of the pelvis. When suppuration follows labor, the abdomen should not be opened; it should be attacked from below. Drainage is still in doubt. Some advocate drainage through the abdomen, others through the vagina, while others omit it.

Present Status of Genito-Urinary Therapeutics.—This paper was read by Dr. Eugene Fuller, of New York. The elimination of the gonococcus through the direct result of therapeutic measures is disappointing. The chief reason for the failure lies in the quality possessed by the gonococcus of so burying itself under the epithelial layers or in the mucous follicles as to escape the germicidal effect of the antiseptic solution with which the mucous surfaces are bathed. It should always be remembered in the treatment of gonorrhea that Nature is the chief factor in the elimination of the gonococcus. An expectant treatment, therefore, which may do nothing more than leave Nature alone, is better in its results than a spectacular one which thwarts her. Among the agencies causing defects of urinary drainage are congenital anomalies, strictures, prostatic hypertrophy or tumefaction, neoplasm, calculi and movable kidneys. Diuresis is best effected by the ingestion of a large volume of bland, soft water and not by the administration of drugs. Surgical cleanliness is essential. No anodynes should be prescribed in operative cases. They check diuresis and thwart Nature in her attempt to prevent an infection confined to this urinary tract from becoming systemic. If a patient be brought to the operating-table narcotized, there is an added risk of post-operative death from uremia or sepsis or from a combination of the two. Never give anodynes after the operation. If a patient suffer for any length of time after operation or has developed attacks of suffering, then something is wrong with the operation, with the dressings or with the drainage and the giving of an anodyne masks the cause and does not remove it. It merely staves off as it were, the evil day. The intelligent thing to do in such a contingency is to correct what is surgically wrong and thus relieve the patient. The stupid and weak thing to do is to dope him so that he cannot comprehend what is wrong. A great safeguard to the surgeon in these cases is mental alertness on the part of the patient. If after a urinary operation a patient be drowsy and supremely comfortable, one should always be fearful of uremia and to help to bring about such a dangerously blissful condition by the administration of anodynes is bad practice.

Contributions to Practical Therapeutics.—A paper with this title was read by Drs. Albert C. Barnes and Hermann Hille, of Philadelphia. During the past eight years the authors have been engaged in original research work in chemistry and experimental therapeutics in America and at the Universities of Würzburg, Berlin and Heidelberg. The results of this work, notably that done in Heidelberg, have been published in German scientific journals, the pages of which are reserved for records of original experimental work. A substitute for silver nitrate is silver vitellin, a dark brown powder. Silver nitrate is confined to the surface of mucous membranes, whereas silver vitellin has an intensely penetrating action. It penetrates into deep submucous structure where the gonococci and other pathogenic organisms penetrate. Clinical results indicate that silver vitellin will replace other compounds of silver in treatment of gonorrhea and in diseases of the eye, nose and throat. The solubility of silver vitellin is remarkable. Attention is also called to an easily assimilable organic iron. It is called iron vitellin. It is a red powder completely soluble in water forming a red solution, neutral in reaction, tasteless and odorless.

Etiology and Diagnosis of Valvular Affections.—Dr. Thomas E. Satterthwaite, of New York, considered this part of the subject. Apart from lithemia, which is its most potent cause, arteriosclerosis, the continued fevers, influenza, tuberculosis, and infantile gastro-intestinal diseases are factors. Mitral affections are the most common; that is about 75 per cent. The systolic murmur at the apex conveyed to the left, accentuation of the second pulmonic sound, increased transverse cardiac dulness and faint second aortic are present. Mitral obstruction in 70 per cent. of the cases is associated with insufficiency. The total murmurs in the diastolic interval he puts at 40 per cent. Aortic is about as frequent as mitral in combined lesions. Aortic insufficiency is more common than obstruction. In these cases we have the long heart extending to the seventh or eighth space, the water-hammer and the capillary pulse. Aortic insufficiency is detected in from 60 to 70 per cent. Aortic obstruction is rather common in combined lesions, but is rare as a single lesion. Well pronounced tricuspid affections are extremely rare; about 26 per cent. Bicuspid insufficiency preponderates over obstruction in about 9 to 1. It is seldom recognized during life. The most distinctive sign is the systolic murmur heard over an extensive area including the lower half of the sternum, a little to the right and over the fourth and fifth left intercostal spaces along the sternal line. Another important sign is epigastric pulsation. The jugular pulse is also pathognomonic. Tricuspid obstruction is very uncommon. Of all cardiac affections the pulmonary are the most rare. Among the important signs are displacement of the apex to the left and an occasional thrill over the second or third interspace close to the sternum conducted down its margin. A diastolic murmur intensified by inspiration. Pulmonic embolism occurs in one-third the cases. Wasting disease of the lungs, sepsis, arteriosclerosis and epigastric pulsation also occur. Diagnosis has only been made in about half of the cases by postmortem. Pulmonary obstruction or stenosis is one of the most frequent of the congenital anomalies of the heart.

Prognosis of Valvular Diseases of the Heart.—Dr. Leonard Weber, of New York, said that this depends on the local and general conditions. As to the former the subjective symptoms complained of by the patient, such as pain, shortness of breath, palpitation, dry cough, etc., should not be overlooked by the doctor. They were of great value in connection with other symptoms. In examining the heart it is important at first to get the patient to indulge in some mild form of exercise, such as a rapid run around the office. If the heart goes back to its original condition within a minute or a minute and one-half, then there is no organic disease. As to the general condition, what work can the heart do under the ordinary circumstances? This depends on the state of the arteries, of the heart muscle, etc. The speed of the heart is not so important as is its rhythmic action. The difficulty in arriving at a prognosis lies in the necessity of weighing and striking a balance between symptoms that point in opposite direction. Never be in too great a hurry to express a positive opinion.

Dietetic Treatment of Pulmonary Tuberculosis.—Dr. Wm. Henry Porter, of New York, thinks we should be more liberal in the use of a meat diet; if the beef trust keeps up the price of meat tuberculosis will increase. A good variegated diet is essential. A predisposition to tuberculosis is inherited, not the disease itself. We must first overcome the general malnutrition and then attend to the particular foci of the disease. The most difficult problem is the loss of appetite and the inability of the system to digest food. When this problem is solved recovery will be more readily accomplished.

Physical Treatment of Tuberculosis.—Dr. Egbert Le Fevre, of New York, calls attention to the use of physical means in connection with other treatment for the arrest of the disease. Well-regulated exercise should be taken, according to the stage of the disease and the condition of the patient. Always avoid fatigue. In the early stage of the disease rest is the most

important. He also called attention to the use of the pneumatic cabinet. This instrument for the treatment of tuberculosis was killed by overenthusiasm in the profession.

Advances in Special Therapeutics.—The first paper on ophthalmology was read by Dr. D. B. St. John Roosa, of New York, who said there was an exaggerated idea as to the bad influence of atropine in persons over middle life. Eucaine is more apt to produce hemorrhage than cocaine. Sterilized water is preferred by him to chloride of mercury. To put the eye into proper condition for operation, protargol is preferable to nitrate of silver, as it is less irritating. Suprarenal gland has been used several years. Now the active principle of the gland, chloride of adrenalin is used. Ophthalmologists are advancing the use of therapeutic agents.

Advances in Surgery.—Dr. Wm. H. Carmalt, of New Haven, Conn., read this paper. Surgical operations should aim at correct and perfect procedure. Great advance has been made in anesthesia, both local and general. He thinks it better that patients should know absolutely nothing of an operation to be performed upon them. He also spoke of antitetanic serum which had been used with some degree of success.

Advances in Obstetrics.—Dr. Charles Jewett, of Brooklyn, N. Y., said that childbirth is a physiological process; only limited advance had therefore been made in connection with the therapy bearing on it specially. In the prevention of eclampsia he considers morphine better than most obstetricians in American think it to be, but said that there was danger to the child in using the drug too freely. He thought chloroform invaluable in an emergency, but its use should not be continued. The best treatment for eclampsia is prevention.

Progress in Orthopedics.—The development in orthopedics, Dr. Newton M. Shafer, of New York, said has been more influenced by a few men than any other branch of medicine. The tendency to cultivate surgery at the expense of the mechanical art is still too great. Medical schools should be equipped with mechanical laboratories and more attention given to the study of anatomy.

Advances in Dermatology.—Dr. Charles W. Allen, of New York said that it could not be claimed that advances had been made equal to those made in bacteriology and some other branches of study. However, distinct progress has been made in the knowledge of the working value of the iodins, formalin, methylin blue, etc. He also spoke of the X-ray as a valuable aid.

Recent Advances in Laryngology.—Dr. Charles H. Knight, of New York, read a paper on this subject. The term laryngology has grown to cover diseases of nose and pharynx as well as of the larynx. In this rhinological enthusiasm the nose has been looked upon as the probable source of nearly every human ill and ruthless slaughter has been practised. Happily now a saner view prevails. The importance of a well-formed nose to beauty and symmetry of the face is generally appreciated. A recent suggestion for remedy of disfigurement was the possibility of injecting solidifying fats into the tissues, was conceived by Dr. Corning of New York. He immobilized a muscle affected with clonic spasm by surrounding it with a mixture of paraffin and cocoa butter. The tolerance of tissues to this substance led to its adoption for the "saddle-back" nose. The author's own experience in this connection has been discouraging. In syphilitics the condition is complicated by cicatricial tissue. The two precautions to be observed are the perfectly aseptic mixture of fats and to inject it at a proper temperature. If too fluid, there is danger of fat embolism in the lung. Local suppurative reaction may set up. The procedure is not without dangers. The amount used is in proportion to the degree of deformity. Recently in a case six drams were injected at a temperature of 106° F. No anesthetic was used. It is thought best to do the injecting at several sittings rather than to inject the whole quantity at once. There seems to be no limit to the possibility of paraffin injections in the alteration of physiognomy. The case of a patient is cited whose abnormal width of nose, owing to chronic rhinitis, was lessened and improved by making an artificial turbinated bone at several sittings by the injection each time of five minims of paraffin. The nasal septum has furnished an interesting field for practice. It has an endless variety of deformities. Deviation may affect bone or cartilage or both. In the majority of cases involvement of the bony septum is so moderate that it may be disregarded. In dealing with deflections of the nasal septum the utmost care should be taken to determine that the condition of the patient does not forbid surgical interference. Suprarenal extract has a great field in rhinology.

(To be continued.)

BOOK REVIEWS.

COMPEND OF GENERAL PATHOLOGY. By ALFRED EDWARD THAYER, M.D., Assistant Instructor in Gross Pathology, Cornell Medical College; Pathologist to the City Hospital; formerly Fellow in Pathology, Johns Hopkins University; Instructor in Anatomy, Yale Medical College, and Professor of Pathology and Bacteriology, West Virginia University. Containing 78 illustrations. Philadelphia, P. Bakiston's Son & Co., 1902.

FOR a short, concise but still complete treatise on pathology, Thayer's book will be found a great aid to students and others interested in this branch of medicine, since their practical needs have been especially considered and by the omission of controversial matters and references to authors and articles, the effort to give the subject simply has been steadily maintained. The book abounds in illustrations, chiefly borrowed from larger treatises. Bacteriology, too, has received free consideration and not the least attractive part is the chapter on autopsy technic and the preparation of sections. The syllabus upon which Chapter VI. is based is prepared by Prof. Ewing and deserves our hearty endorsement.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

NOTHNAGEL'S ENCYCLOPEDIA OF PRACTICAL MEDICINE. DIPHTHERIA, MEASLES, SCARLATINA, GERMAN MEASLES. By Drs. W. P. NORTHRUP and T. V. JÜRGENSEN. 8vo, 672 pages. W. B. Saunders & Co., Philadelphia and London.

THE FREETHINKERS' MANUAL. By Drs. BAUER and H. F. HERBERT. Demi 8vo, 384 pages. Radical Publishing Company, Philadelphia.

THE ARTIFICIAL FEEDING OF INFANTS. By Drs. C. F. JUDSON and J. C. GITTINGS. 8vo, 368 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

DISEASES OF THE NOSE, PHARYNX AND EAR. By Dr. HENRY GRADLE. 8vo, 547 pages. Illustrated. Philadelphia and London.

THE NEUROSES OF THE GENITO-URINARY SYSTEM IN THE MALE. By Dr. R. ULTZMANN. Demi 8vo, 198 pages. F. A. Davis Company, Publishers.